



Clemas & Co Ltd

**Industrial Cleaning Equipment
Sales - Hire - Service**

DEMON TYPHOON 2 PRESSURE WASHER OPERATOR MANUAL



Clemas & Co. Unit 5 Ashchurch Business Centre, Alexandra Way, Tewkesbury,
Gloucestershire, GL20 8NB.

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DEMON TYPHOON RANGE
Typhoon D1
Typhoon 2
Typhoon P4
Typhoon Evolution Air Cooled
Typhoon Evolution Water Cooled

**A Declaration of Conformity
(E.H.S.R.)**

We, Demon International Limited of Abbots Close, Lee Mill Industrial Estate, Ivybridge, Devon PL21 9GA declare that this machine must be operated in accordance with the operation and safety instructions as supplied with this machine. This machine is manufactured in accordance with the following standards and recommendations.

HSE PVB PM29 – BS5415 Part 1 – BS5415 Section 2.4 1986

This instruction manual is relevant only to the following machine and will not be kept updated unless specifically requested by the customer. However, any changes to the operating procedure or changes which might affect the safety of this machine will be notified to the registered owner of this machine only.

Machine Type	
Serial Number	
Voltage	
Working Pressure	
Date of Supply	

Technical Specifications

Typhoon 1 and Typhoon Evolution Air Cooled

Pump	Annovi Reverberi RK15.20		Boiler
Pump pressure	200 bar	2900psi	Fuel type Gas oil/derv /kerosene (not on Evolution)
Flow rate	15lpm	3.3gpm	Pressure 7.5 bar 110psi
Max by-pass setting	205 bar	3000psi	Nozzle 1.75 US galls
Min pressure setting	50 bar	750psi	Nozzle make Danfoss 60° S
H.P nozzle	1505		Electrode gap 6mm ± 1mm
Motor power	8.2HP @ 3000rpm		Ignition Transformer 70 Watts
Pump oil	10W/40		Fuel pump 50 Watts
Unloader valve	GM3A		Fan motor 75 Watts
Fuses	3.15 amp semi delay		Valve 1828 Seal 1857
			Oil 1856 Piston 2757
			Support Rings 1829

Engine: Yanmar L100AE-DE producing 8.2HP at 3000 rpm

Cooling: Air cooled (Evolution model has an extraction fan for hot air removal)

Note: Mounting the Typhoon 1 in the back of a vehicle or on a trailer can only be reliable if the machine is left on its wheels. If the wheels are removed and the machine bolted to the floor vibrations caused by the diesel engine will cause component to work loose and fail early. This can be overcome by two methods, leave the wheels on and fix the castor wheel end of the machine and use the wheel chocks or purchase the correct rubber mounts from us.

Typhoon 2 and Typhoon Evolution Water Cooled

Pump	Annovi Reverberi RK15.20		Boiler
Pump pressure	200 bar	2900psi	Fuel type Gas oil/derv /kerosene (not on Evolution)
Flow rate	15lpm	3.3gpm	Pressure 7.5 bar 110psi
Max by-pass setting	205 bar	3000psi	Nozzle 1.75 US galls
Min pressure setting	50 bar	500psi	Nozzle make Danfoss 60° S
H.P nozzle	1505		Electrode gap 6mm ± 1mm
Motor power	8.3HP @ 2200rpm		Ignition Transformer 70 Watts
Pump oil	10W/40		Fuel pump 50 Watts
Unloader valve	GM3A		Fan motor 75 Watts
Fuses	3.15 amp semi delay		

Engine: Isuzu 2CA1 producing 8.3HP at 2100rpm

Cooling: Water cooled engine using heat exchanger to transfer engine heat to the pumped water increasing boiler efficiency. Low water cut out separate to the engine management system to stop engine before the tank is empty. Separate extraction fan for engine compartment.

Technical Specifications

Typhoon P4

Pump	Annovi Reverberi RK15.20		Boiler		
Pump pressure	200 bar	2900psi	Fuel type	Kerosene/gas oil/derv	
Flow rate	15lpm	3.3gpm	Pressure	7.5 bar	110psi
Max by-pass setting	205 bar	3000psi	Nozzle	1.75 US galls	
Min pressure setting	50 bar	750psi	Nozzle make	Danfoss 60° S	
H.P nozzle	1505		Electrode gap	6mm ± 1mm	
Motor power	8.2HP @ 3000rpm		Ignition Transformer	70 Watts	
Pump oil	10W/40		Fuel pump	50 Watts	
Unloader valve	GM3A		Fan motor	75 Watts	
			Valve	1828	Seal 1857
Fuses	3.15 amp semi delay		Oil	1856	Piston 2757
			Support Rings	1829	
Engine	Honda GX340				

Note: Mounting the Typhoon 1 in the back of a vehicle or on a trailer can only be reliable if the machine is left on its wheels. If the wheels are removed and the machine bolted to the floor vibrations caused by the diesel engine will cause component to work loose and fail early. This can be overcome by two methods, leave the wheels on and fix the castor wheel end of the machine and use the wheel chocks or purchase the correct rubber mounts from us.

FAULT FINDER		
FAULT	CAUSE	REMEDY
Boiler will not work	Blown Fuse	Check power to electrical enclosure and 3.15 amp control fuses.
Sudden pressure loss	No water No Chemical Burst disc blown	Check water supply Check chemical drum, close valve. Replace Disc
Water turns to steam during normal use	Partially blocked H.P.Nozzle.	Clean and flush machine
Low pressure	HP Nozzle worn Unloader set wrongly	Replace Reset unloader valve
Low pressure with Noise & vibration	Valves worn or blocked Piston seals worn Pump sucking air	Clean or replace as required Replace Check chemical valve and inlet pipe
Pump will not By-pass	Jammed non-return valve O Ring damaged	Clear blockage Replace
Water drips from pump bottom	Piston seals worn	Replace
Oil drips from pump bottom	Oil seals worn	Replace
Burner will not ignite	Fuel tank empty Fuel filter blocked Fuel nozzle blocked Electrodes dirty Out of adjustment Flow switch out of adjustment	Refill Replace Clean or replace Clean or replace Reset Adjust
Oil is milky in colour	Water ingress through oil filler plug	Drain oil, rinse out with clean paraffin the replace oil
Flames coming out of chimney	Poor quality fuel leading to poor combustion and then burning off of excess fuel in the boiler.	Maintain the fuel system more often, drain the sediment out of the tank regularly and clean or replace filters and nozzles more often.
If in doubt ask—our advice is free and can save you money		

Environmental Statement - these machines have been designed to be recycled and wherever possible recyclable components have been used. The design of these machines ensures that they can be economically upgraded and kept in service for longer periods of time resulting in the minimum amount of waste to be disposed of. Keep your machine maintained and regularly serviced to make sure your impact by using this machine on the environment is minimised

PREPARATION

- a. Connect hose to water inlet connector and turn on.
- b. Connect high pressure hose to connector. (Evolution models are permanently connected.)
- c. Connect lance to hose.
- d. Top up fuel levels and check oil levels in pump and engine.
- e. If chemical is to be used place filter in drum of chemical and open valve. If not make sure valve is closed.

OPERATION TO START MACHINE

- a. Turn Ignition Switch until the light comes on.
Turn key to glow plug position until the light goes out (Isuzu engine only) turn key to cranking position and the engine will start.
- b. Hold trigger closed until pressure is reached.
- c. Check voltage with trigger pulled =110v +- 5%
- d. Push red switch once, or burner switch to the on position, (Evolution models) burner will then operate.
- e. Burner will now ignite when trigger is pulled.

OPERATION TO STOP MACHINE

- a. Switch to cold by pressing Red button once or turn burner switch off, run the machine until the water turns cold.
- b. Turn ignition switch off and engine will stop.
- c. Pull trigger to release excess pressure and disconnect from machine.
- d. If the machine is to be stored, drain water system.

Top up fuel levels (Boiler & Engine)

Check oil levels (Pump & Engine)

Place Typhoon cover over machine.

Evolution models - drain water tanks

IF IN DOUBT ASK - OUR ADVICE IS FREE

Royal Navy special instructions - use at sea

Storage of the Typhoon Pressure Washer

1. Ensure machine is stored in a dry environment.

Ensure the cover is placed on the machine.

Ensure all Saltwater has been rinsed off machine with low pressure water.

DO NOT STORE THIS PRESSURE WASHER OUTSIDE OF THE SHIP.

LEAVING THE UNIT OUTSIDE OF THE SHIP WILL CAUSE
SALTWATER DAMAGE.



MINIMUM SERVICE SCHEDULES

DAILY CHECK THE FOLLOWING

- a. Oil level - top up as required.
- b. Fuel tank - top up as required.
- c. All hose unions for leaks.
- d. Hose condition - cuts etc.

Engine Service - Refer to Yanmar or Isuzu service intervals in manual supplied with Typhoon.

EVERY 500 HOURS OR SIX MONTHS (WHICHEVER COMES FIRST)

- a. Drain and replace pump oil. MINIMUM SERVICE SCHEDULES
- b. Drain and refill fuel tank.
- c. Clean and reset electrodes.
- d. Replace fuel filter.
- e. Clean water filter.
- f. Replace high pressure nozzle.
- g. Replace fuel nozzle.
- h. Descale water system. (hard water areas only)
- i. Note: in extreme hard water areas it may be necessary to fit a limefighter device which is a ceramic magnetic tube that ionises the calcium carbonate allowing them to pass through the pressure washer and not form deposits inside.

EVERY 1000 HOURS OR 12 MONTHS (WHICHEVER COMES FIRST)

- a. Complete 500 hour service.
- b. Replace pump seals.
- c. Replace oil seals.
- d. Check float level.
- e. Replace chemical pipes.
- f. Check unloading pressure and safety valve pressure and adjust.
- g. Replace fuel nozzle and set fuel pressure.
- h. Check flow switch and adjust if necessary.
- i. Check electrical connections for tightness.

The above service schedules are intended as a guide only, actual service times and replacements parts required will vary according to the area and the usage of the machine.

Safety Instructions

Water at high pressure is dangerous and can cause serious injury. This machine is to be used with great caution.

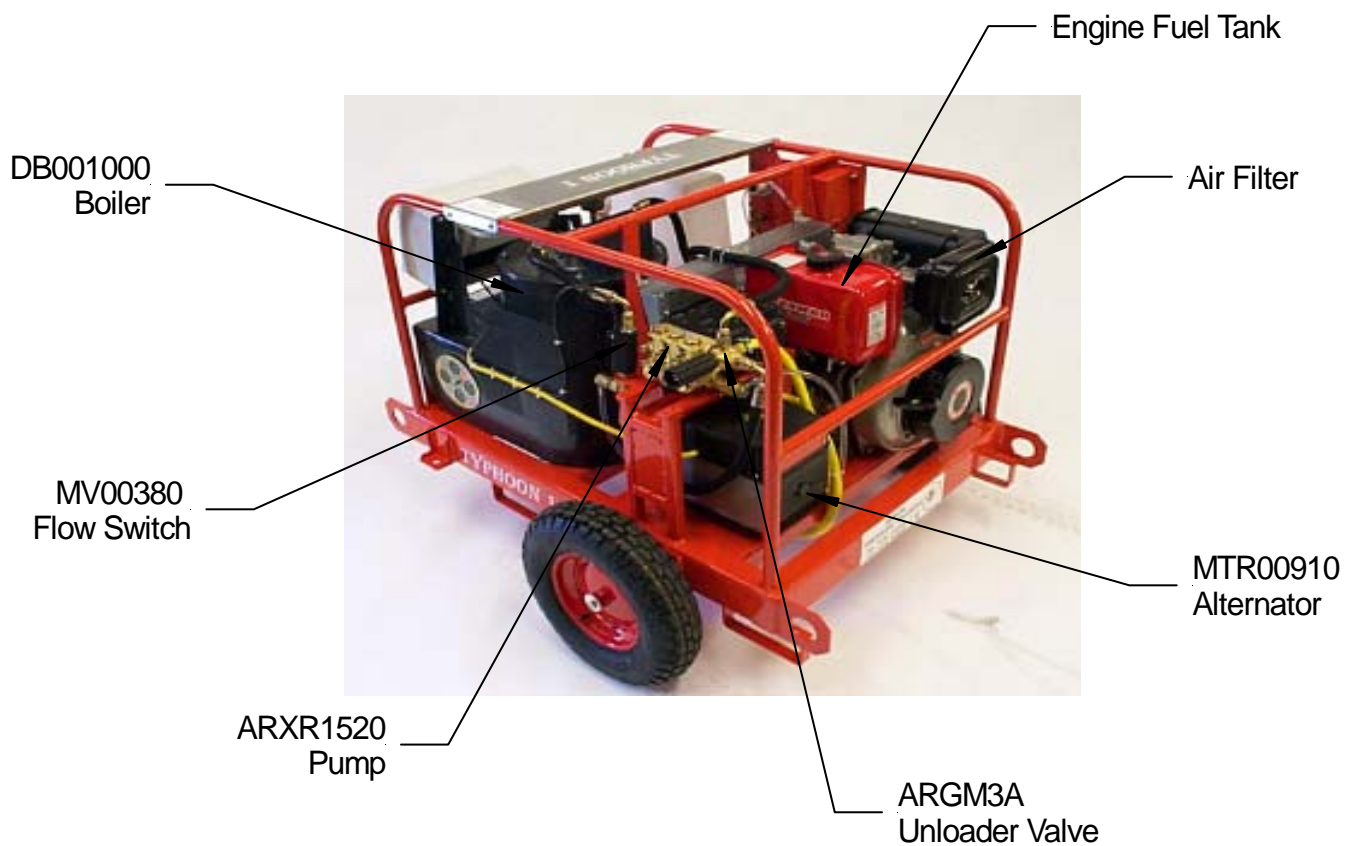
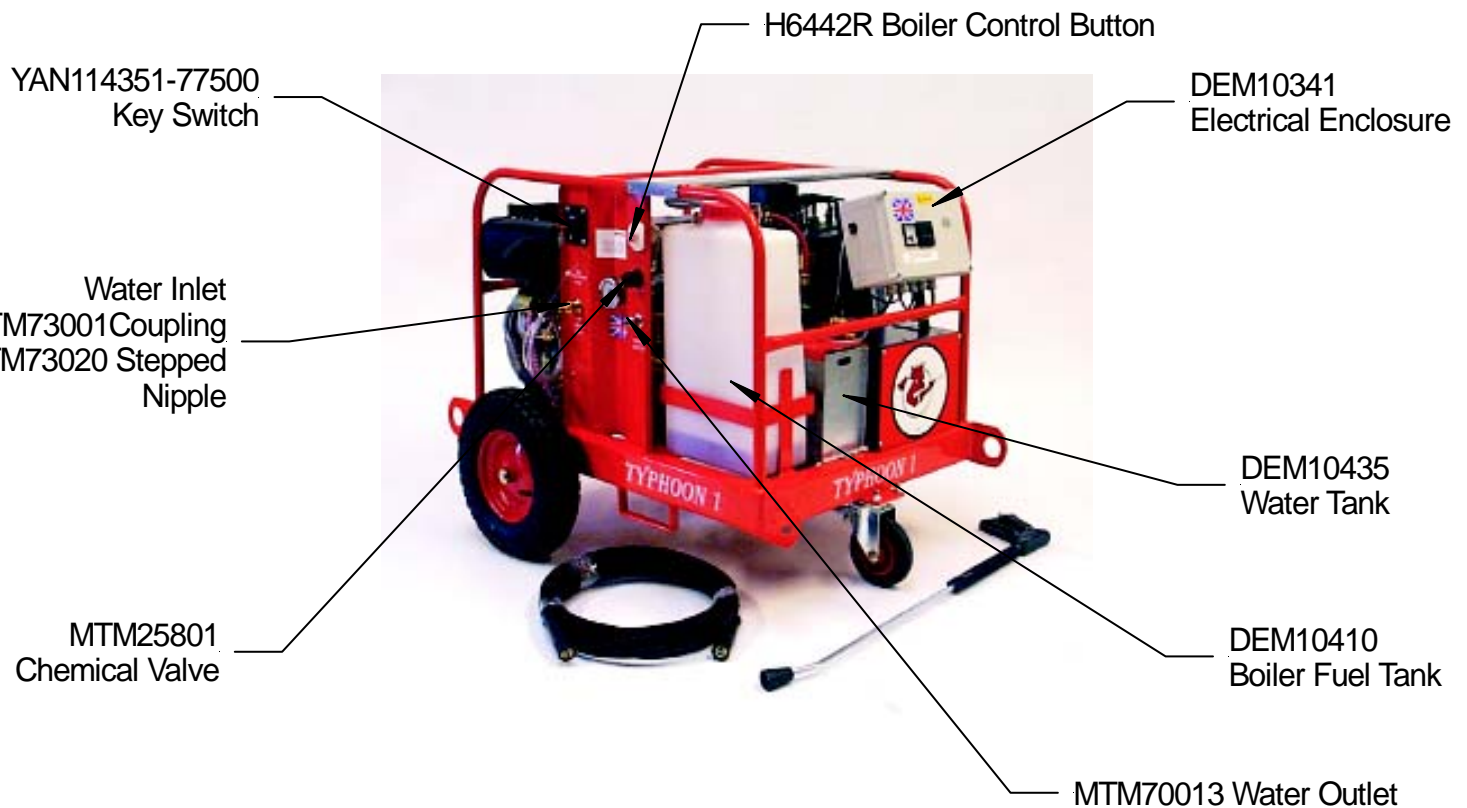
Operating Instructions

- a. **NEVER** point the high pressure spray jet at any person, animal, glass or any other material which may shatter.
- b. **PREVENT** any over-spray from injuring other people or damaging property.
- c. **DO NOT** even try to use a pressure washer on machinery or electrical equipment that is connected in any way to the mains supply. (all switches in the off position, pull out all plugs and if possible remove fuses).
Cover or seal electric motors and fittings to prevent entry of water.
- d. **ALWAYS** when using machine:-
 - wear safety goggles and helmet or helmet with a visor.
 - wear waterproof clothing and gloves.
 - take particular care with detergents and chemicals.
- e. **NEVER** attempt to disconnect any hose with pressure in it or allow the hose to be flattened or kinked.
- f. **DO NOT** use a high pressure hose from a ladder. Use a platform tower or proper scaffolding.
- g. **CHECK** voltage output is between 105V and 115V if not check engine speed or call our service department for advice.
- h. **ALWAYS** disconnect the hoses when the machine is not in operation and protect the machine from frost and cold winds.
- i. **ALWAYS** use the machine in a well ventilated area.

CAUTION - if using chemicals some brands will adversely affect the brass components fitted to this machine. If in doubt please telephone our technical department for advice.

Environmental Advice - use the least aggressive or least caustic products that will achieve the cleaning result.

Typhoon Arrangement Drawings



Typhoon Evolution General Arrangement

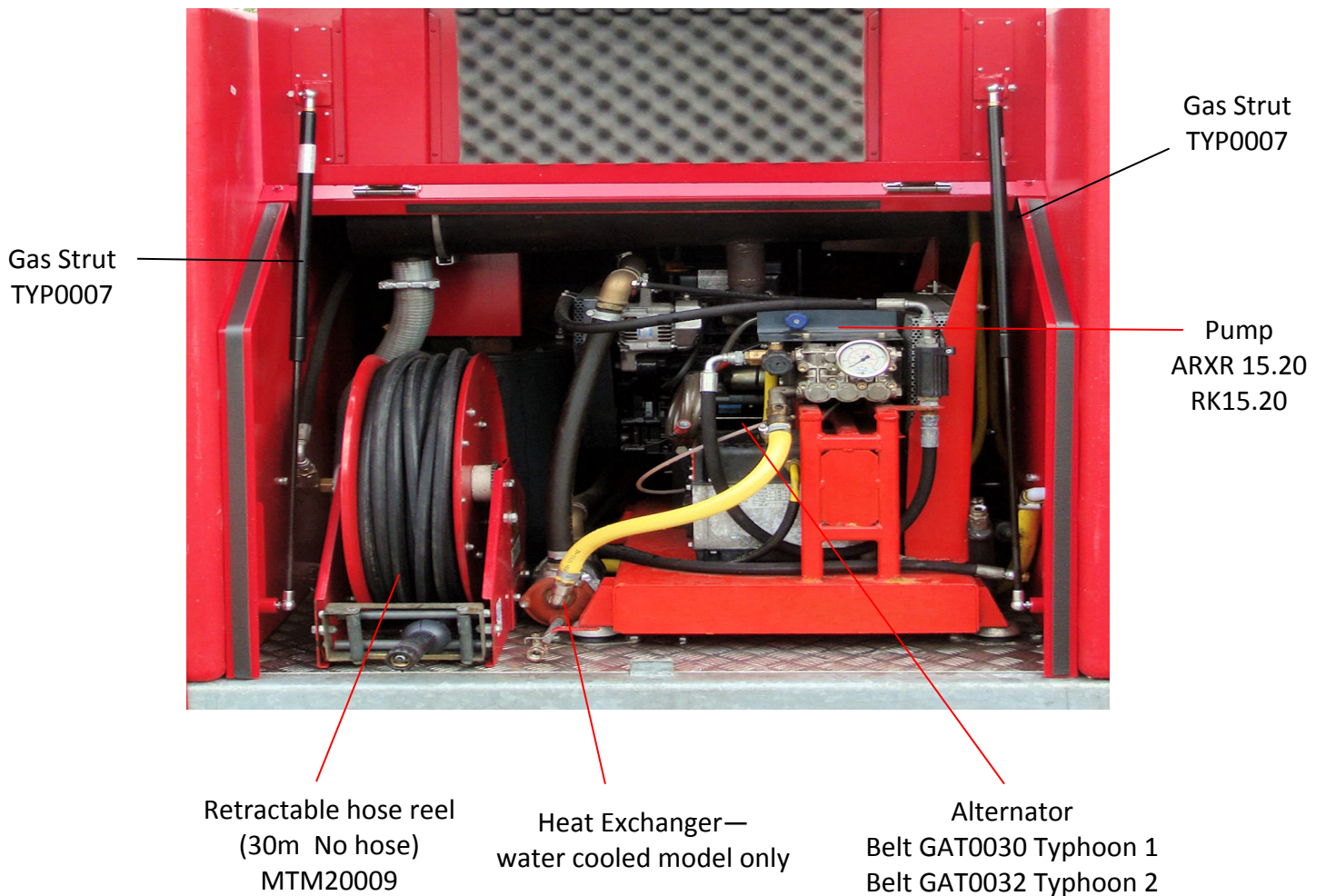


Position of Drain holes

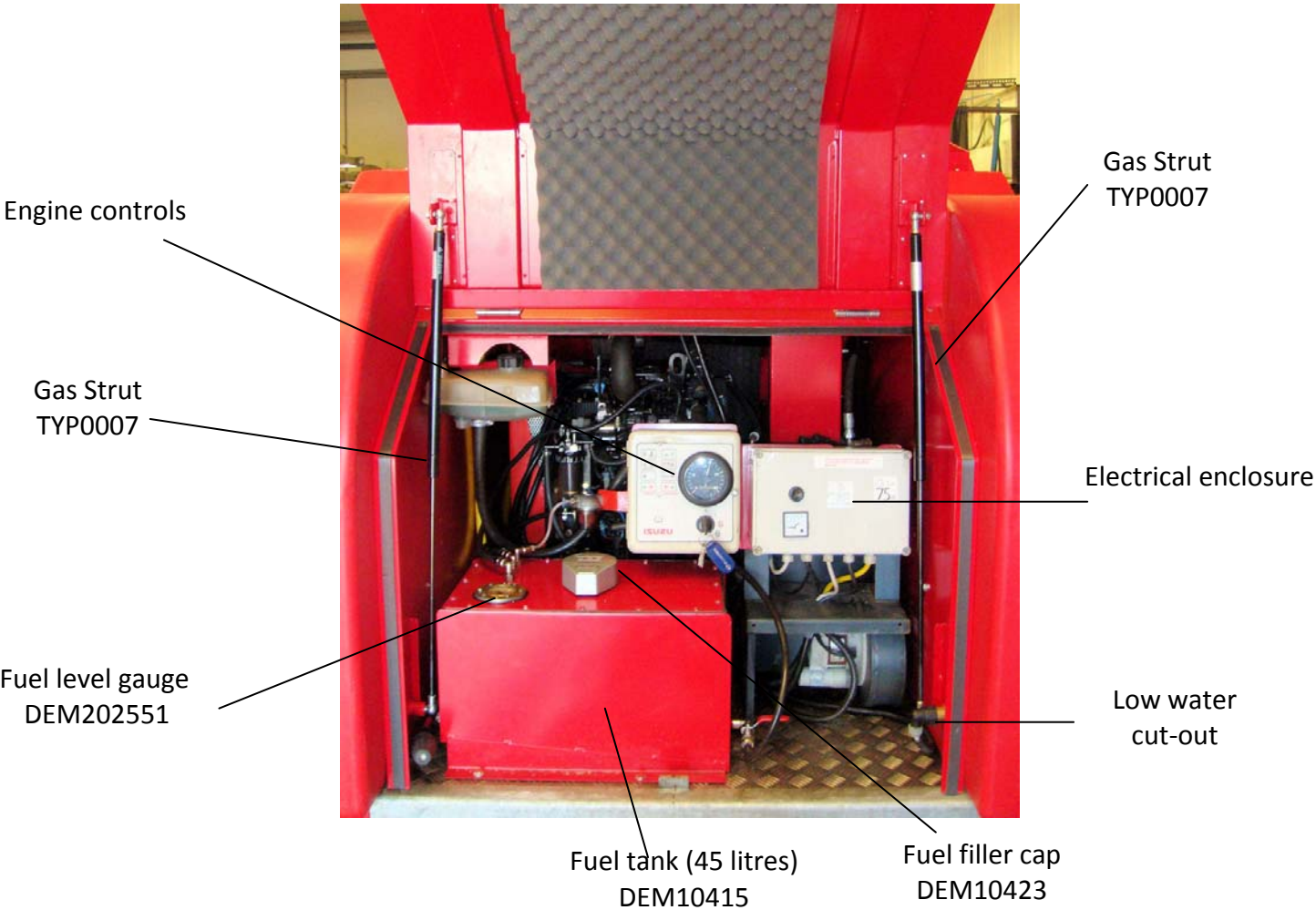
Important information

Caution—towing these machines at speed with the water tanks full over rough ground or speed bumps is not advised as this places excessive stress on the machine which may lead to damage.

Typhoon Evolution Arrangement Drawings



Typhoon Evolution Arrangement Drawings



WARRANTY

This warranty covers the cost of all replacement parts and labour charges incurred. It does not cover the cost of transport or carriage. It is the owners responsibility to return the machine to a service depot or pay the travelling expenses of a service engineer to attend. Demon International's decision in warranty matters is final and binding.

Demon International Ltd undertake to repair or replace, any component which may fail due to a manufacturing fault within a period of 12 months from the date of purchase, provided that any fault or damage was not sustained by;

- A. Lack of regular and proper maintenance, user negligence, misuse, or damage caused by ice and frost.
- B. The effects of contaminated fuel or water, the use of non-approved chemicals or an insufficient or unsuitable electrical supply.
- C. The effects of un-authorized modification and use.
- D. Compression damage to high pressure hose. (HOSES WARRANTED FOR 1 MONTH ONLY)
- E. Worn out items considered fair wear and tear.

Parts which may or may not wear out during the first year and which are considered service items which will need replacing from time to time: High pressure nozzle, lance, trigger, hoses, fuel nozzle, fuel filter, piston seals, valves, unloader seats and seals, water filter, non-return valve, chemical barbs, chemical pipes and pump oil seals.

It is the owners responsibility to ensure the Pressure Washer is kept in a safe and suitable environment and any faults reported by operatives to be rectified at the earliest possible date.

It is the operators responsibility to check the Pressure Washer for any faults and report them immediately. The Pressure Washer must be used in accordance with the manufacturers specifications and guidelines.

Demon International Ltd undertake to use the highest quality components available during manufacture, but cannot be held responsible for any undue consequence arising from the use of there Pressure Washer.

This warranty is given to the original purchaser only and is not transferable without the fully authorised and written consent of Demon International Ltd.

Warranty Procedure

End Users

If your machine develops a problem:

1. Phone Demon for advice with the model and serial number to hand.
2. Describe fully the problem as best you can.
3. If the problem cannot be resolved over the phone then the machine can be booked in for repair and if the faults are covered by the warranty the repair will be carried out free of charge.
4. If you cannot bring the machine in for repair then we will despatch an engineer. If the fault is covered by the warranty then we will not charge for labour or spares used, however the transport charge will be payable whether or not the repair is warranty.

Hire Centres and Dealers

If your machine develops a problem:

1. Phone Demon for advice with the model and serial number to hand.
2. Describe fully the problem.
3. We will advise you on the best course of action, however if parts are required you must raise a purchase order number to cover the parts. When the parts are fitted they must be returned for examination before a credit note is issued.
4. If you are unable to repair the machine then we will despatch an engineer to carry out the repair. We will need a purchase order to cover the cost of transport to and from the site and for parts and labour if the repair is not covered under the warranty.
5. If required Demon will arrange for a carrier to collect a damaged machine, if the warranty claim is valid we will pay this cost, if not it will be charged to the customer.

Notes:

You will not invalidate the warranty by investigating faults and repairing them yourself providing you follow our advice. Hire Centres and Dealers are expected to carry out all repairs themselves with Demon crediting faulty parts upon receipt and inspection.

Spare parts fitted to machines are guaranteed for 1 month only or the remainder of the warranty period whichever is longer.



Nozzles - you can't get pressure without one!

How do I know which nozzle I have?

Look at this part of the nozzle and it will have a four or five digit number which gives the angle of spray as the first two digits. The next two or three numbers are the size. (i.e. 15045 is 15° spray angle with 045 size aperture.)



Pressure starts and ends at the nozzle. The volume of water pushed down the hose and forced through the small hole determines the pressure on the gauge. Try taking the nozzle out and then pulling the trigger. You get virtually no pressure registering on the gauge.

The golden rule when diagnosing a loss of pressure is **to start at the nozzle** and work back to the pump.

Example: a new Typhoon is delivered to your branch and is left in the workshop for a few days until a hire comes up. The lance gets pinched to go out with one of your other pressure washers so you search around for something to use and find a lance that will do. Unfortunately it came from a petrol pressure washer and now the Typhoon will only do 1500psi. It must be Demon's fault. Get them to dash out and sort it out, must be warranty! No its the nozzle. An 055 fitted to a petrol pressure washer will only give 1500psi when used on a Typhoon. (This has happened!)

Example: I can't check that the right nozzle is fitted because the numbers are worn away. If you can't read the number then the nozzle is old a probably worn out. Fit a new one and see what pressure you get. (All the lances are now colour coded)

Model	Flow	Pressure	Nozzle	Colour
Typhoon 1 & Evolution Models	15 litres	2900psi	1505	Red
Tempest 1 Auto	11 litres	1500psi	15045	Blue
Tempest 3 Auto	11 litres	1500psi	15045	Blue
Storm 1	11 litres	1500psi	15045	Blue
Storm 2	11 litres	1500psi	15045	Blue
Tornado & Hurricane P2	13 litres	2200psi	15045	Red
Tornado & Hurricane P4	15 litres	2900psi	1505	Red
Tornado & Hurricane D1ES	15 litres	2900psi	1505	Red

Demon Technical Support 01752 - 690690



The water is not as hot as it used to be – Why?

The fuel nozzle in your hot water pressure washer is a wearing item. It needs to be changed regularly. When depends entirely on the quality of fuel passing through it. As the nozzle wears the droplets which are atomised become bigger until they will no longer ignite easily. The symptom of this is flames appearing up the chimney. As soon as the flames are visible half way up the square section, change your nozzle and your filter, as well as removing the fuel tank and draining out the sediment and water that will have accumulated.



Another reason for the water not getting as hot it used to, is a damaged cone. The one on the left is new and how it should look, the one on the right is burnt and has one side missing. If you strip a fuel nozzle you will find that there are three very small grooves that the fuel travels along before it leaves the nozzle.



Dirt can block one of these grooves which forces most of the fuel out of one side causing a lopsided flame, which will in time oxidise the metal causing it to flake and drop into the bottom of the coil. The flame will burn mostly on one side of the boiler and even heating of the coil will not occur leading to a loss of heat output. Other symptoms include a hot outer casing and a partially melted fuel tank.

TIP:

Change your fuel nozzle frequently and you won't need to fit a new inner drum lid & cone.

The nozzle we use is a Danfoss 1.50 US gallons per minute 60° solid nozzle. From the picture you can see that it is made up of five parts. The bits that get damaged by dirty fuel is the third and forth items from the left. If you take one apart you will see how small the fuel grooves really are.



Part Number	Description
DB000015	Fuel Nozzle
DB002500	Fuel Filter
DB000051	Inner Lid & Cone

Demon Technical Support 01752 - 690690



I can't get the pressure to where it used to be – where do I start?



Well by now you should know to check the nozzle - assuming that is correct and you still have no or low pressure the golden rule is to connect the pump to the mains water supply - whichever machine you are testing start with a good mains feed.

1. With the gun and lance connected turn the tap on - can you see a leak? If so there is your problem, if water can leak out air can get in and the pump won't produce pressure - simple as that. (Leaks from underneath the pump are either worn seals or a cracked piston - strip to find out which.)

Remedy: Fix leak or replace seals or piston.

2. Check enough flow of water can get into the pump. Make sure all the filters are clean. The new Tempest hot water machines have a fine filter which will remove most solids. All Demon machines are now double filtered. Have you checked both of them?

Remedy: Strip and inspect filters.

3. There are no leak's what next? With the pump switched off pull the trigger, water will spray out. Keeping the trigger pulled switch the pump on, if the water spray does not improve the valves are the fault. Either worn out or dirty. Strip and inspect. (The high pressure hose will also vibrate on the ground.)

Remedy: Replace or clean valves.

4. The valves are OK there are no leaks but it still won't get up to pressure – what next? The unloader valve piston and seat are damaged or worn allowing some of the water to circulate around the cylinder head - strip and inspect, you will see any damage.

Remedy: Strip unloader and inspect - replace damaged parts.

5. My cold water pressure washer does not feel as powerful as it used to be but the pressure gauge shows the correct pressure. What causes this? The chemical pick-up has a nozzle of 1.8mm or 2.0mm size and can get partially blocked. This will allow some but not all of the water to flow to the lance.

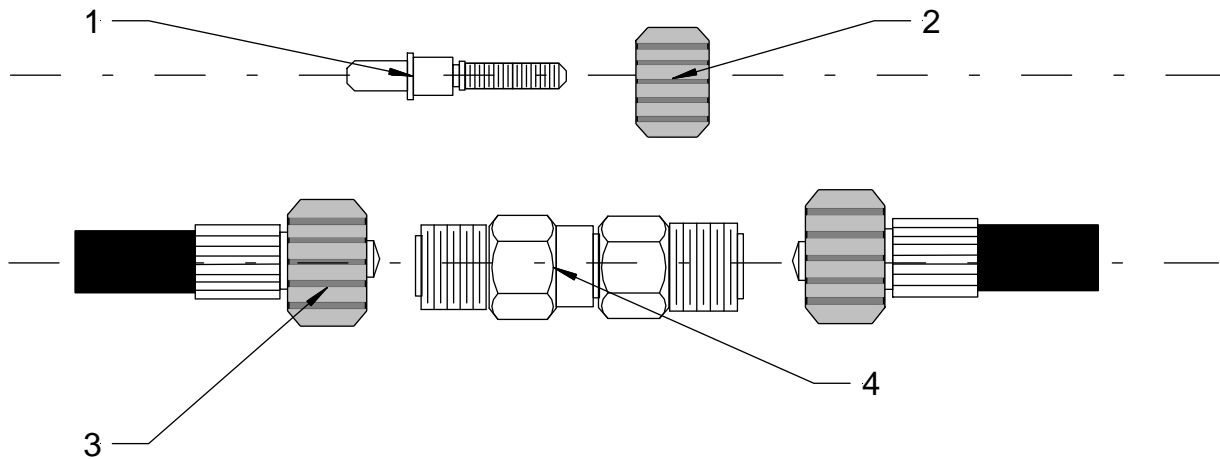
Remedy: Strip and remove the blockage.

6. The pressure remains high even when I let go of the trigger and the engine or motor is struggling or stalling. The non- return valve in the unloader is damaged or jammed.

Remedy: Strip and clean or replace.

Demon Technical Support 01752 - 690690

High Pressure Hoses

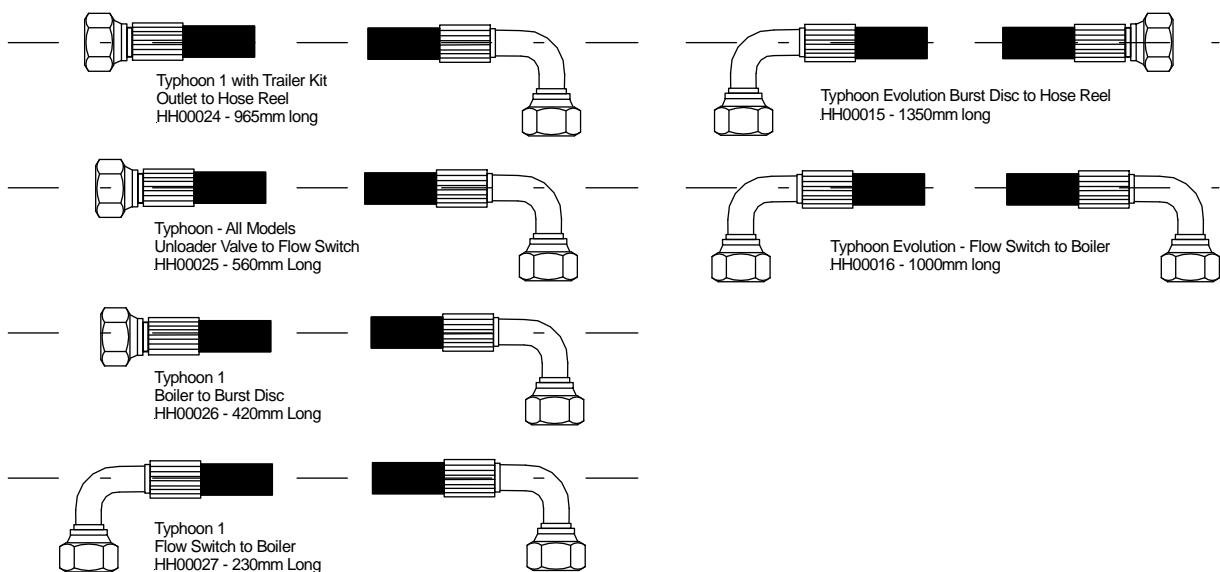


- | | |
|-----------------------|--------------------------|
| 1. Hose Insert | MV00490 (items 1 and 2) |
| 2. Nut | Not available separately |
| 3. High Pressure Hose | HH00030MVG |
| 4. Hose Joiner | MV00500 |

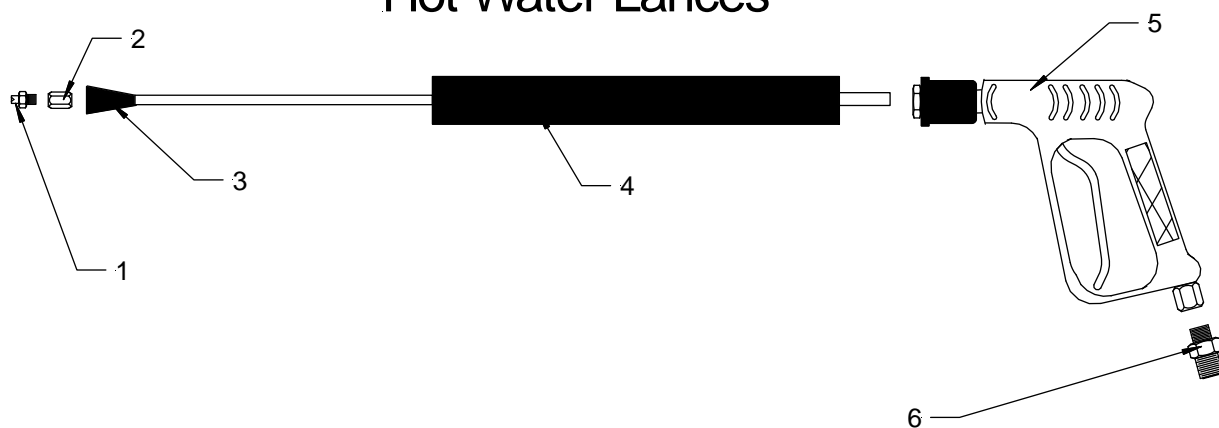
Alternative Hose Lengths

- | | | |
|-------|---|-------------------------------------------------|
| 15mtr | - | HH00050MVG - standard hose for Typhoon 1 |
| 30mtr | - | HH00100MVG - standard hose for Evolution Models |

Typhoon HP Hoses

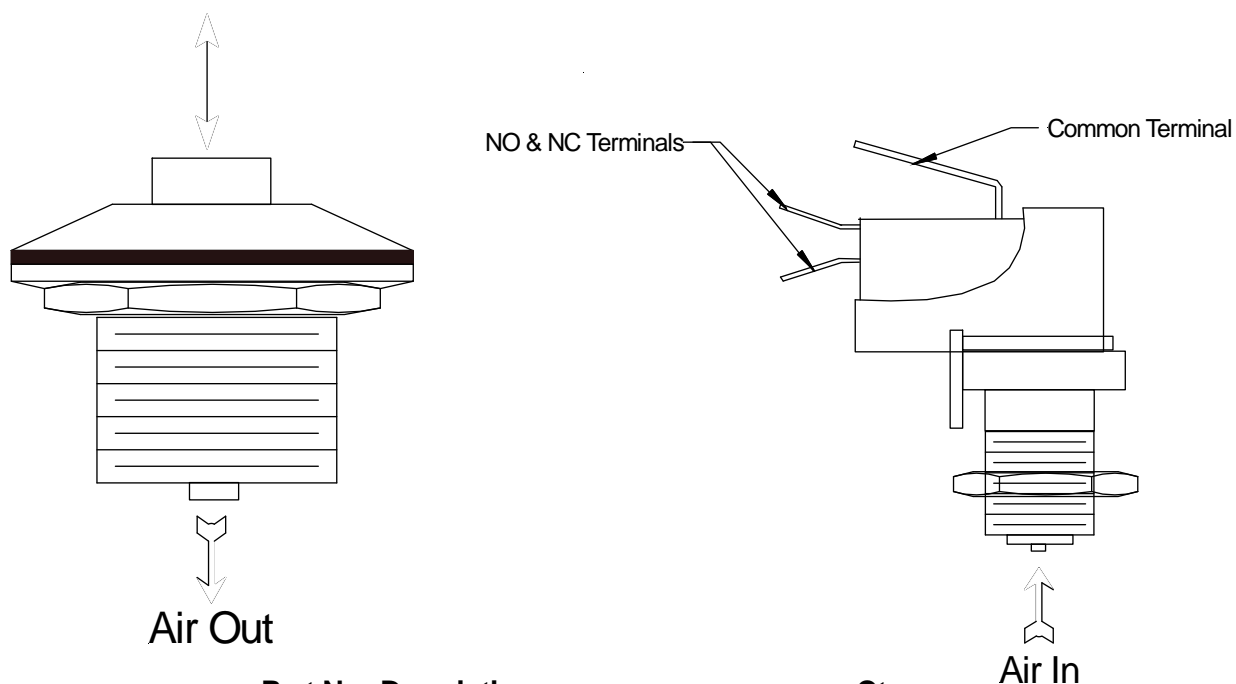


Hot Water Lances



Position	Part Number	Description	Qty
1	N26001/1505	High Pressure Nozzle	1
2	DEM20340	Barrel Nut 1/4" BSP	1
3	MTM0001000	Rubber Cover	1
4	DEM10032R	QR Lance 05	1
5	DEM10030	QR Trigger	1
6	MTM70012	MVG Coupling	1

Air operated push button and switch



Part No.	Description	Qty
H6442B	Push Button (Blue)	1
H6442R	Push Button (Red)	1
H65000	Air Pipe	2
H6871AC	Switch	2

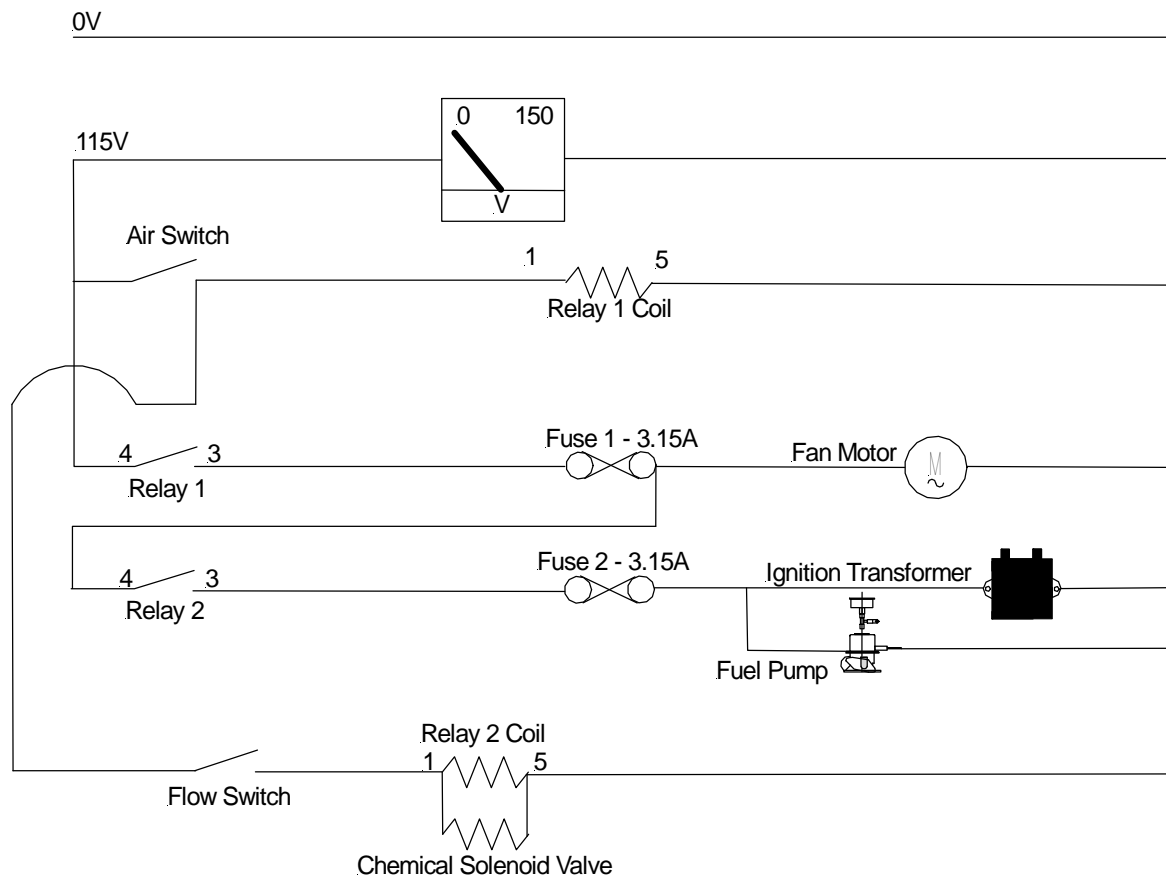
How does this work?

The air switch push button contains a membrane which, when the button is pushed increases the air pressure in the air pipe which in turn activates a mechanism inside the switch.

The top terminal on the switch is a common live feed in and the other two are N/O and N/C respectively which means it does not matter which terminal you use for the switching signal.

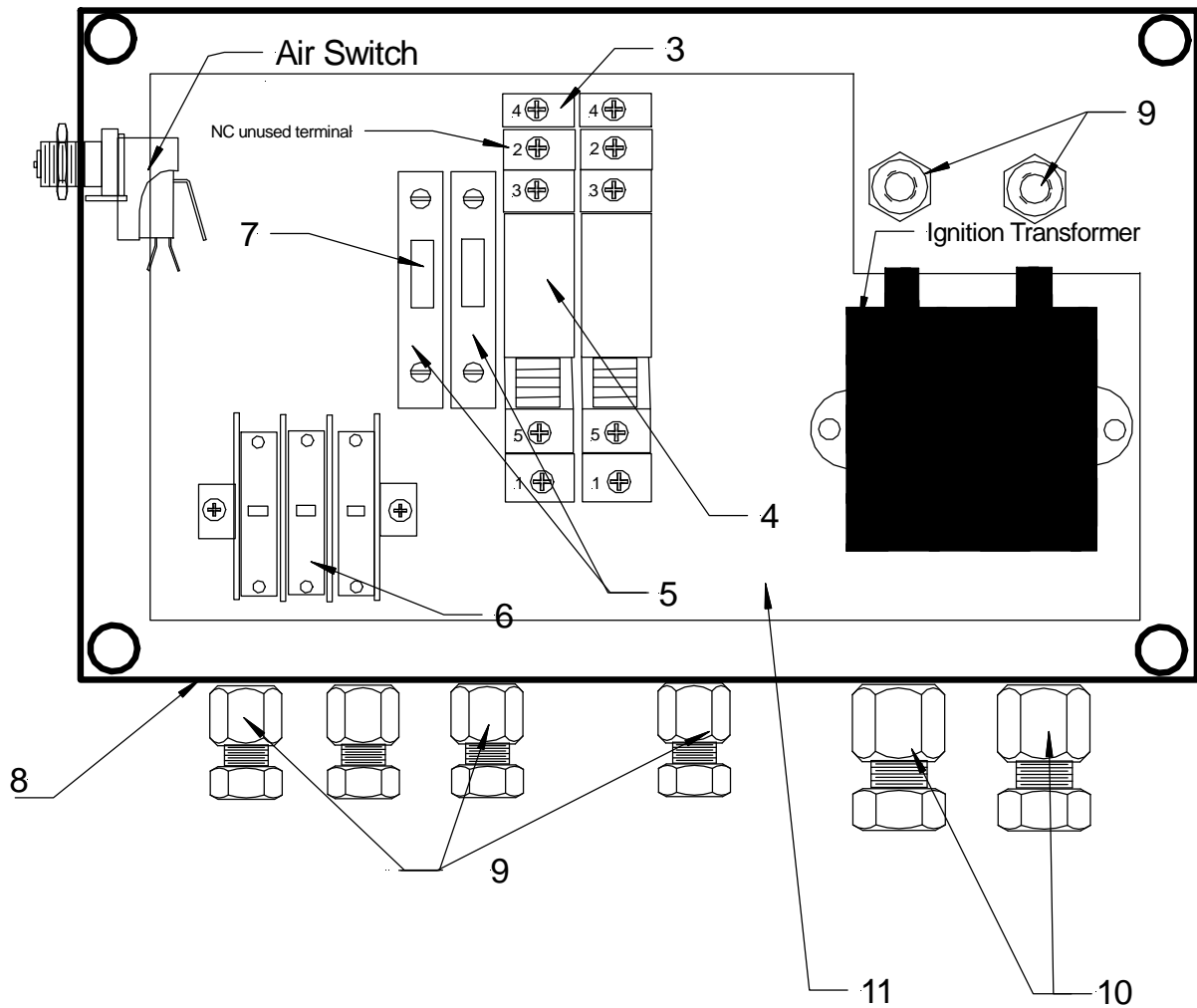
With the Typhoon 1 you are turning the fan motor on which gives a live feed to the flow switch which in turn signals the relay to give fuel and sparks at the same time.

Typhoon Wiring Diagram



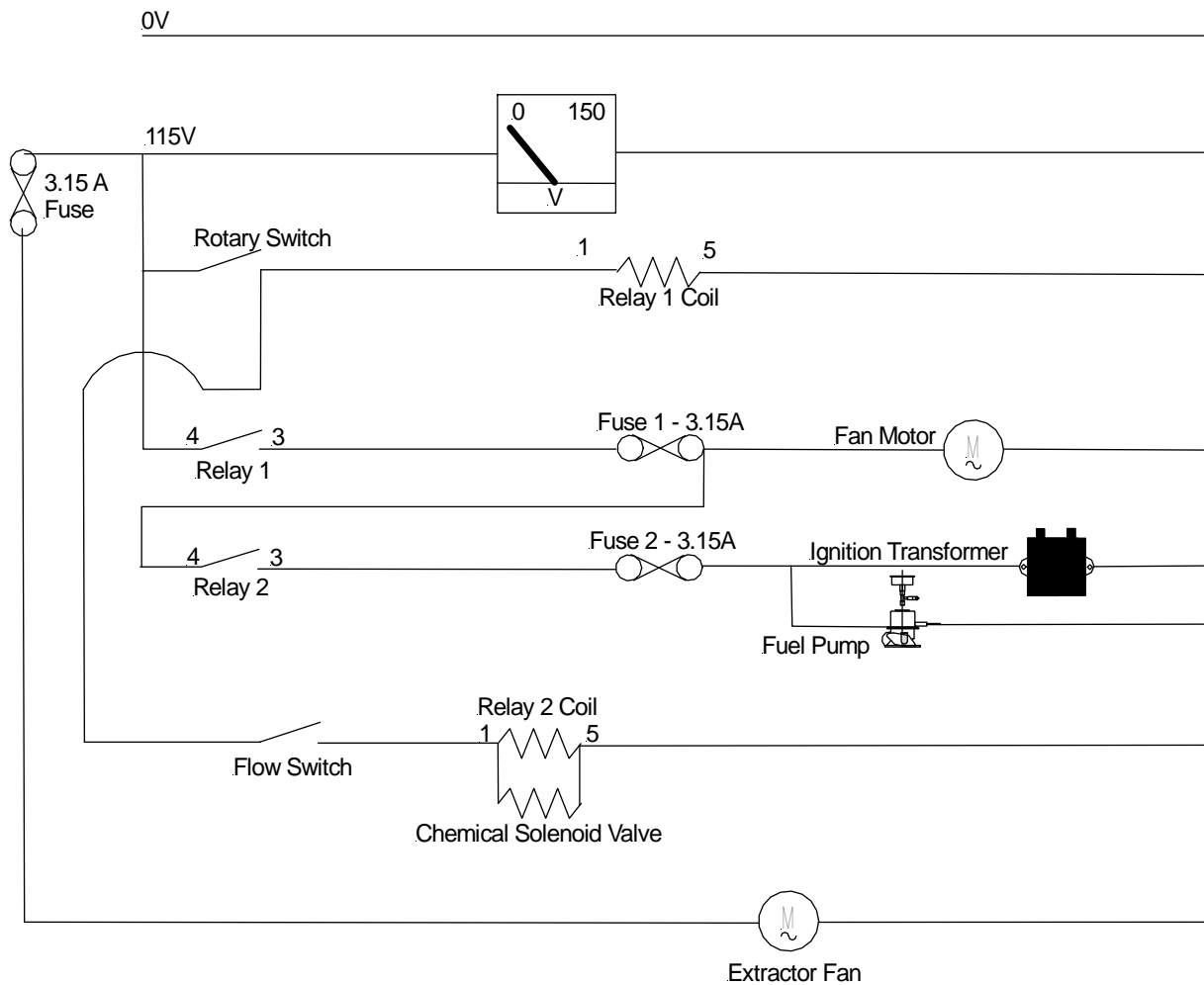
Description	Part Number	Qty
Airswitch	H6871AC	1
Relay	DEM100915	2
Fuse	FUSE002	2
Fan Motor	DB000171	1
Ignition transformer	DB000255	1
Fuel Pump	DB002305	1
Flow Switch	MV00385	1
Chemical Solenoid Valve	DEM101191	1
Volt Meter 150V	DEM101107	1

Typhoon Electric Box



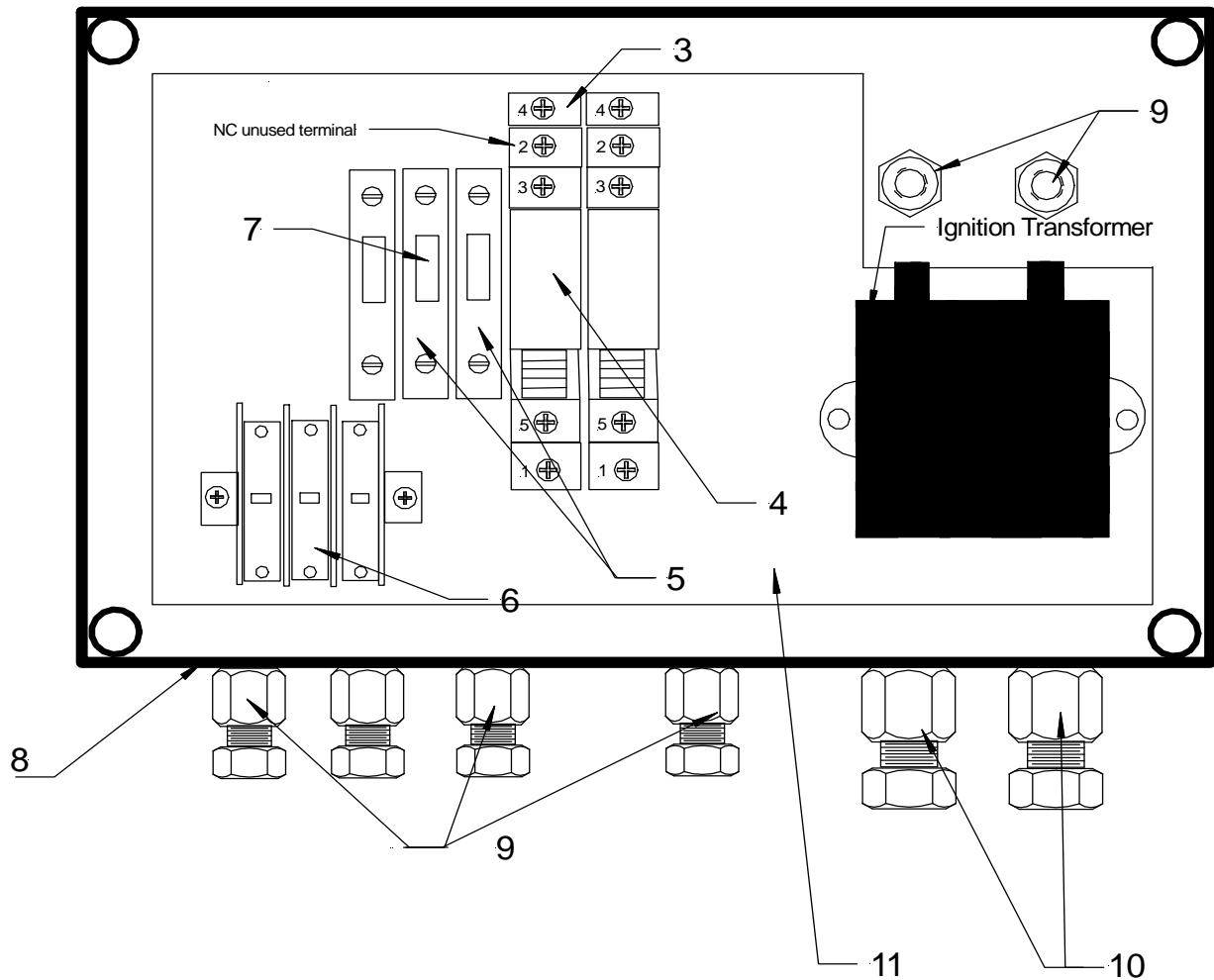
Pos	Description	Part No	Qty
3	Relay Base	DEM4100750	2
4	Relay	DEM100915	2
5	Fuse Holder	DEM100920	2
6	3 Way Connector	DEM100948	1
7	Fuse 3.15 amp	FUSE002	2
8	Typhoon Electrical Box	DEM100875	1
9	PG 9 Cable Gland	DEM20110	6
10	PG11 Cable Gland	DEM20100	2
11	Back Plate Electrical Box	DEM10330	1
Not Shown	End Stops—fitted to the rail to prevent the fuse holders and relays from detaching.	DEM100921	2

Typhoon Evolution Wiring Diagram



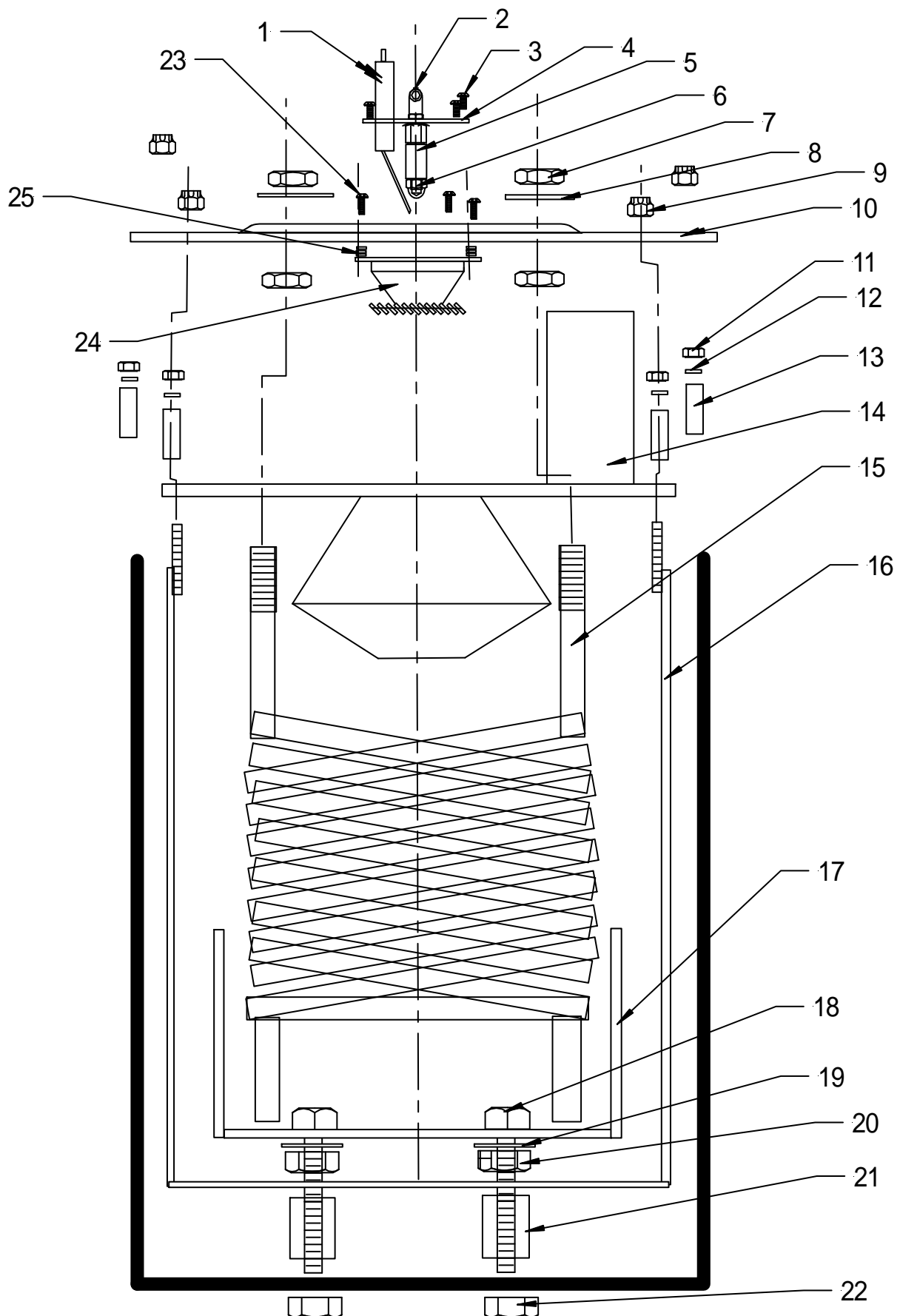
Fuse 3.15amp	FUSE002
Rotary Switch	DEM100755
Relay	DEM100915
Fan Motor	DB000171
Ignition Transformer	DB000255
Fuel Pump	DB002305
Flow Switch	MV00385
Chemical Solenoid Valve	DEM101191
Extractor Fan	DEM100918

Typhoon Evolution Electric Box

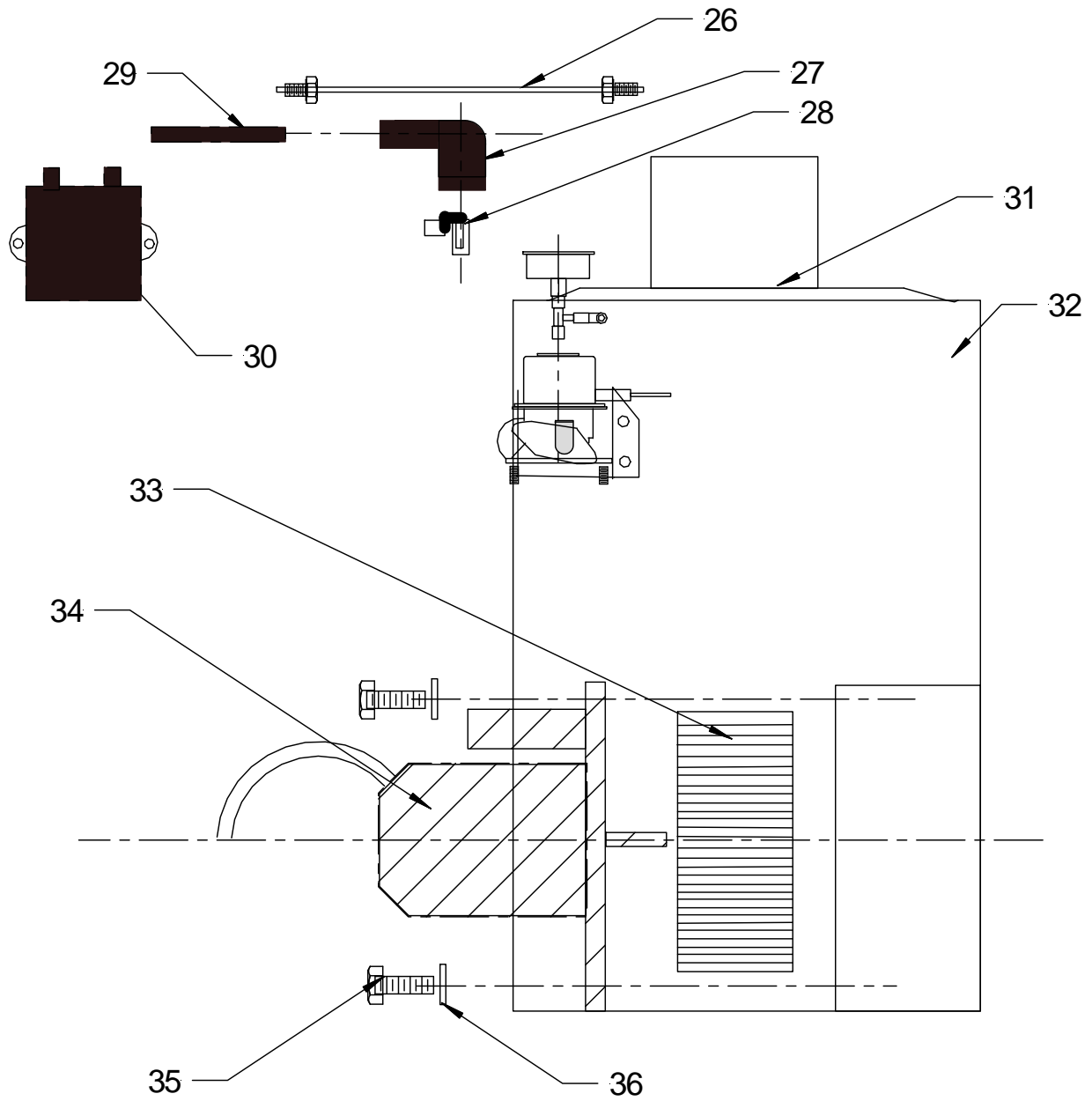


3	Relay Base	DEM100750
4	Relay	DEM100915
5	Fuse Holder	DEM100920
6	3 Way Connector Block	DEM100920
7	Fuse 3.15amp	FUSE002
8	Electrical Box	DEM10323
9	PG 9 Cable Gland	DEM20110
10	P G 11 Cable Gland	DEM20100
11	Back Plate Electrical Box	DEM10330
Not Shown	End Stops—fitted to the rail to prevent the fuse holders and relays from detaching	DEM100921

Inner Boiler Details

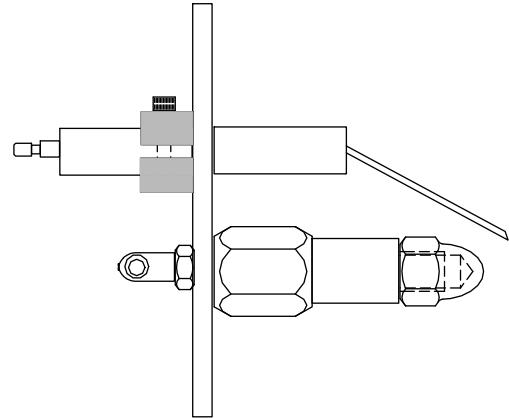
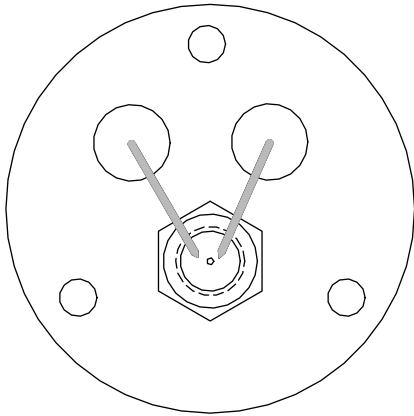


Outer Boiler Details



Boiler Parts List			
No	Description	Part Number	Qty
1	Electrode	DB000110	2
2	Adaptor	DB000130	1
3	Screw	NBW00450	3
4	Top Plate	DB000030	1
5	Nozzle Holder	DB000020	1
6	Nozzle	DB000015	1
7	3/8" BSP Nut	DB000340	4
8	Washer	DB000320	2
9	Nyloc Nut	NBW00160	4
10	Outer Drum Lid	DB000041	1
11	Plain Nut	NBW00200	4
12	Washer	NBW00300	4
13	Spacer	DB000280	4
14	Inner Drum Lid & Cone	DB000051	1
15	Heating Coil	DB000094	1
16	Inner Drum	DB000070	1
17	Flame Pan	DB000081	1
18	Bolt	DB000065	3
19	Washer	NBW00310	3
20	Nut	DB000345	3
21	Spacer	DB000350	3
22	Nut	DB000345	3
23	Screw	NBW00460	3
24	Flame Swirler	DB000100	1
25	Washer	NBW00300	9
26	Fuel Pipe	DB002400	1
27	HT Cap (Rubber)	DB000220	2
28	Rajah Clip	DB000230	2
29	HT Lead	DB000215	2
30	Ignition Transformer 230V	DB000252	1
	Ignition Transformer 110V	DB000255	1
31	Gasket	DB000300	1
32	Outer Drum + Fan Housing	DB000060	1
33	Impeller	DB000180	1
34	Fan Motor 230V	DB000160	1
	Fan Motor 110V	DB000170	1
35	Bolt	NBW00060	2
36	Washer	NBW00280	2

Electrode Setting Details

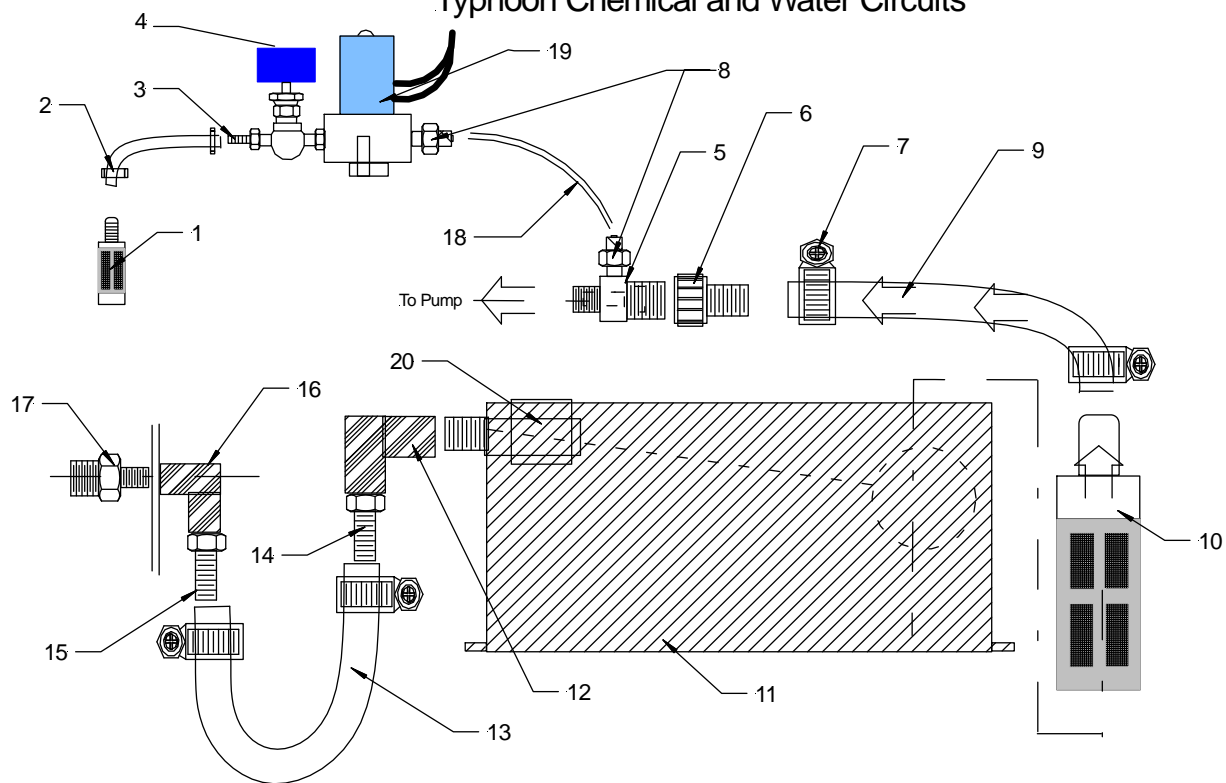


The electrodes should be set according to the picture. 50% of the ceramic insulation should be inside the boiler and 50% outside. The electrode gap should be approximately 6mm and the tips should not be in the fuel spray.

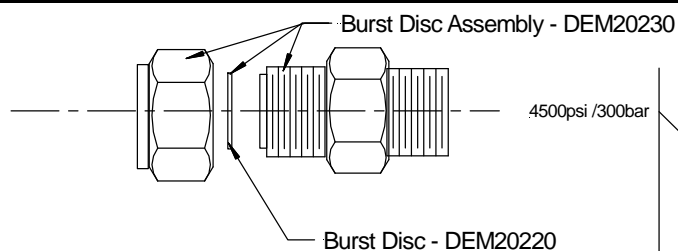
Common problems - fuel filters and nozzles are not changed regularly enough. The nozzle is a precision instrument that can be damaged by small particles of solid matter in the fuel that it is not possible to filter out. Nozzles will not atomise the fuel correctly leading to a longer flame path which you can see by flames visible near the top of the chimney. To remedy this empty the fuel tank and fill with clean fuel, change the filter and then change the fuel nozzle. Clean the electrodes and grind the tips to reveal new metal. Reset and refit and run the boiler with the gun removed for 10 minutes. This will burn off any excess fuel and clean the boiler tubes.

Service the boiler frequently for reliable running, an unserviced boiler does not heat the water correctly wasting your money!!

Typhoon Chemical and Water Circuits



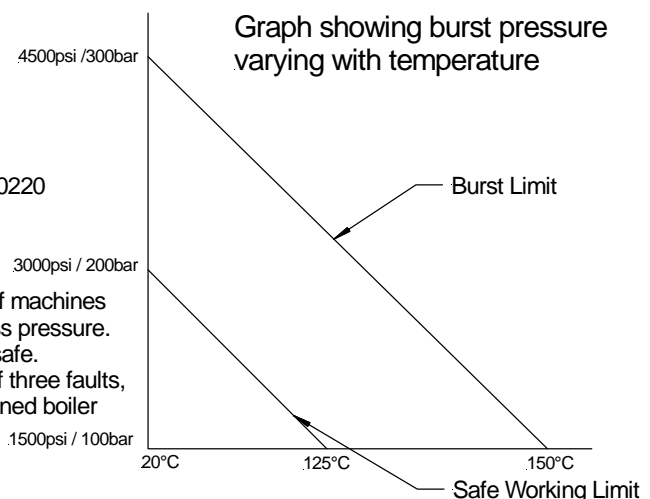
Chemical & Water Circuits							
1	MTM86010	Chemical Filter	1	12	MTM0012FF03	Brass Elbow	1
2	DEM20500	O Clip	4	13	HH0053	Pipe	1
3	DEM10115	Chemical Pipe	2	14	DEM10310	Hose Tail	1
4	DEM101191	Chemical Solenoid	1	15	DEM10300	Hose Tail	1
5	PA00100	Chemical Intake	1	16	MTM0012FF02	Brass Elbow	1
6	MTM71167	Hose Barb Comp	1	17	DEM20255	Adaptor	1
7	DEM20500	Jubilee Clip	4	18	MTM0012FM03	Brass Elbow	2
8	DEM20400	Hose tail	1	19	DEM101191	Chemical Solenoid Valve	1
9	HH0053	Inlet Pipe	1	20	MTM89011B	Mesh Insert	1
10	MTM85002	Water Filter	1	21	MTM89011	Brass Filter	1
11	DEM10435	Water Tank	1				

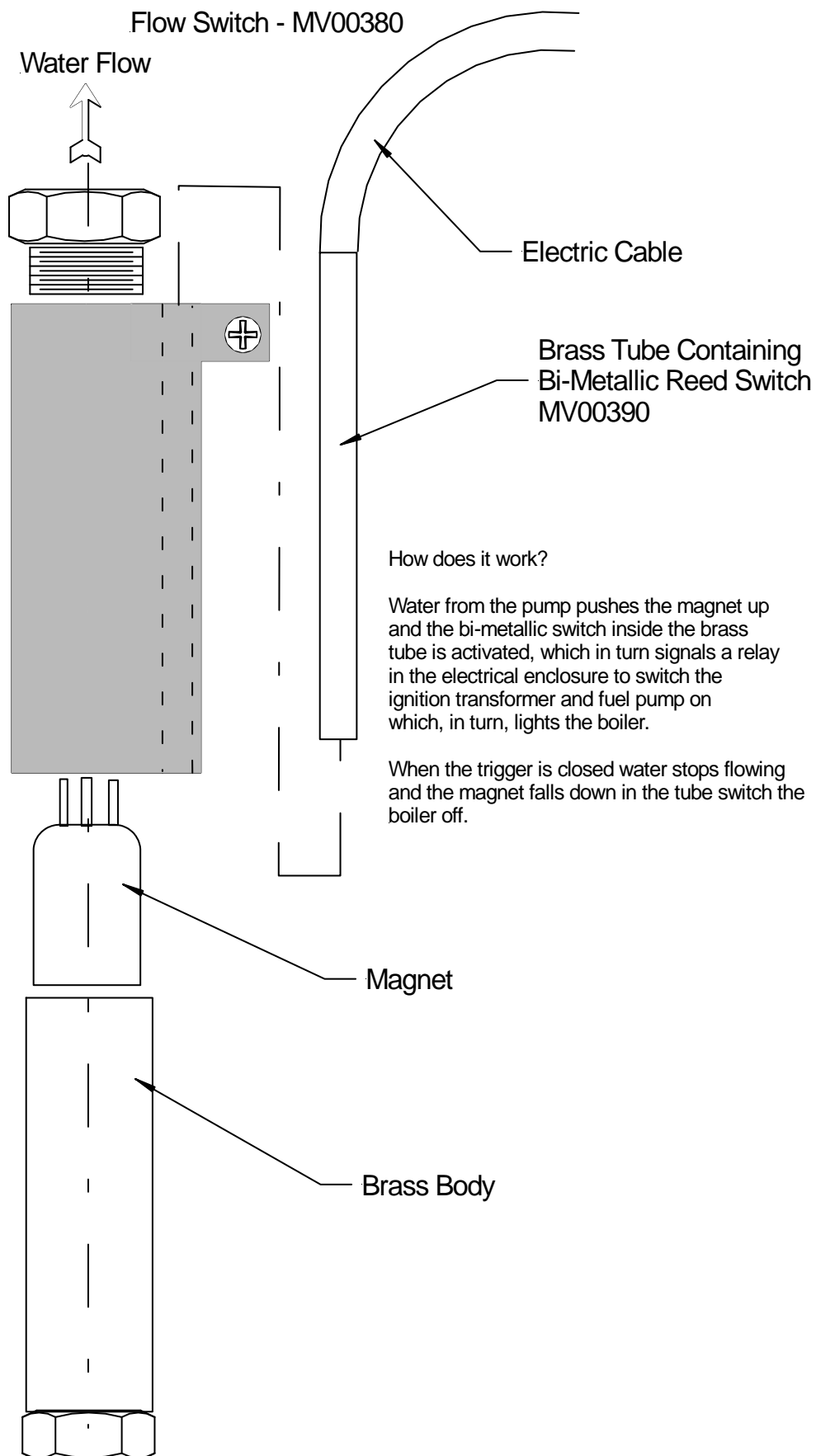


The burst disc fitted to the Demon hot water range of machines is designed to burst either with excess heat or excess pressure. The burst disc works like a fuse and will always fail safe. Rupturing of the burst disc is commonly due to one of three faults, not cooling the machine after using, a poorly maintained boiler or flow switch failure.

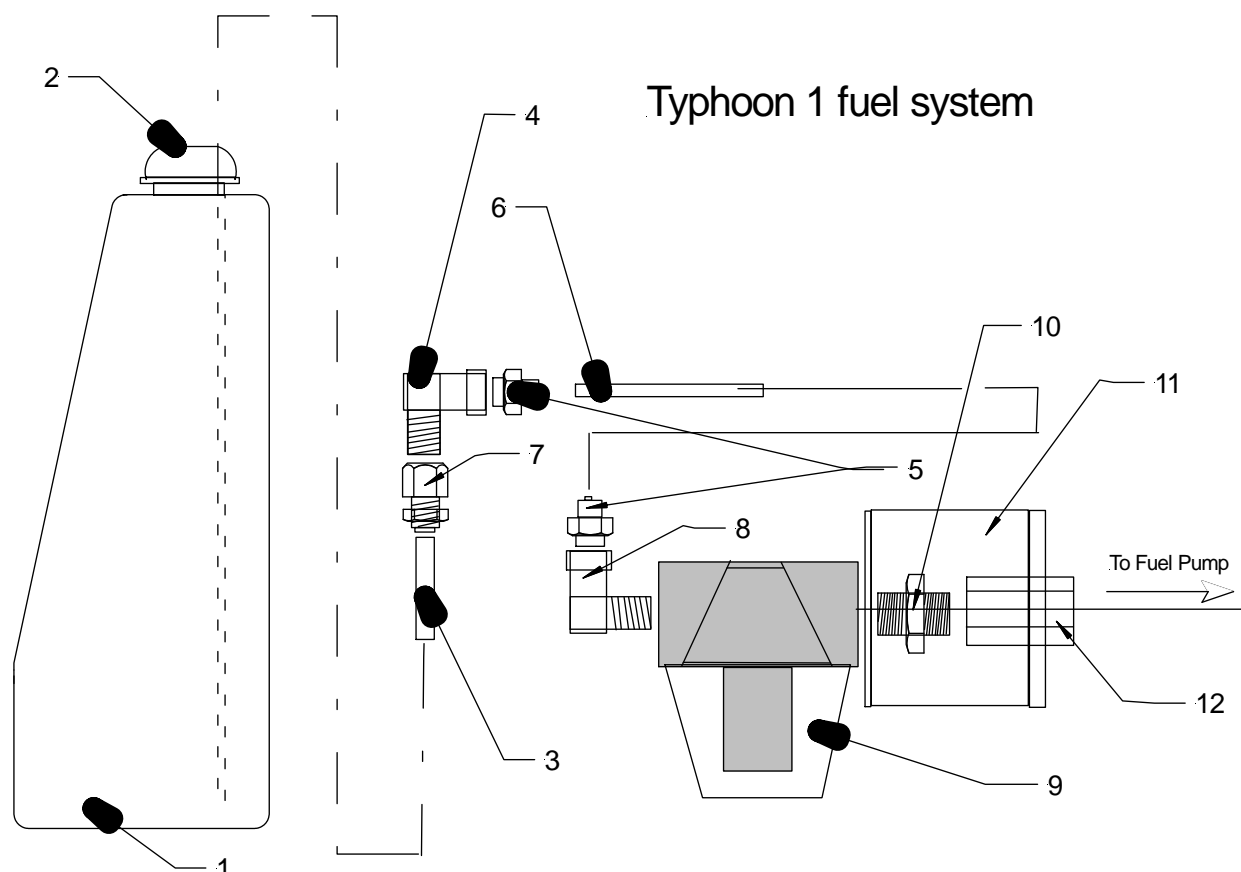
Running the machine for two minutes with the boiler switched off will increase the life of the boiler.

Maintaining the boiler regularly will also lead to increased efficiency and fewer breakdowns.

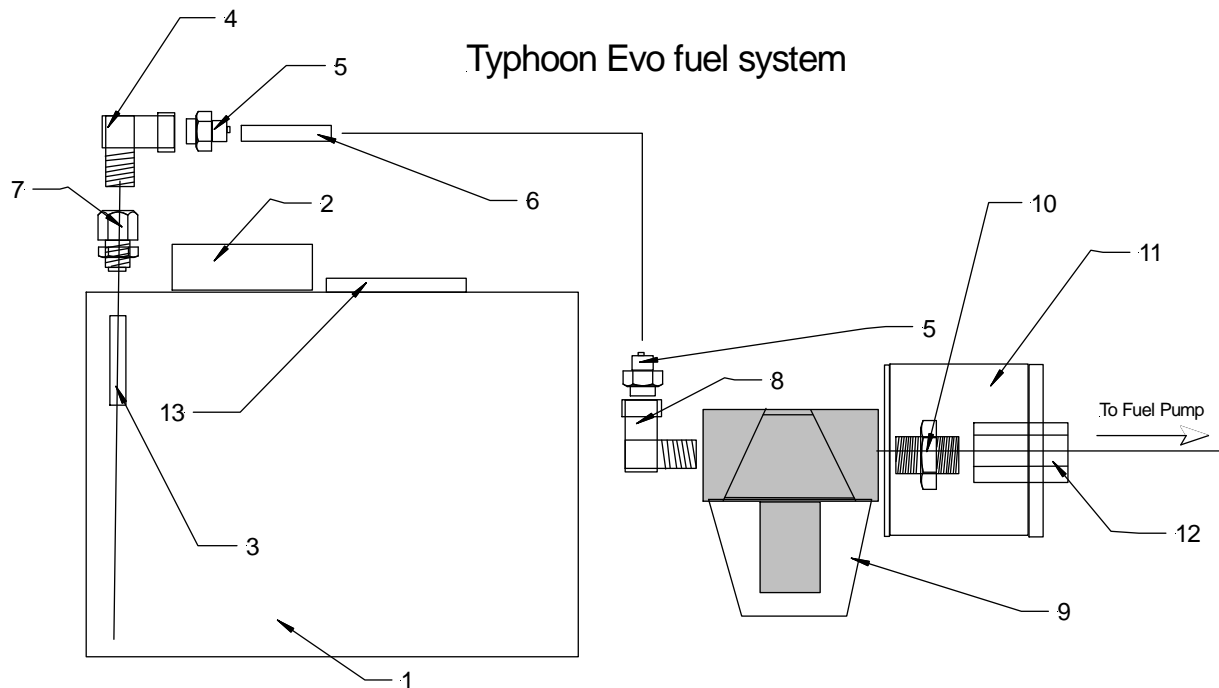




Demon Typhoon 1 Fuel Tank

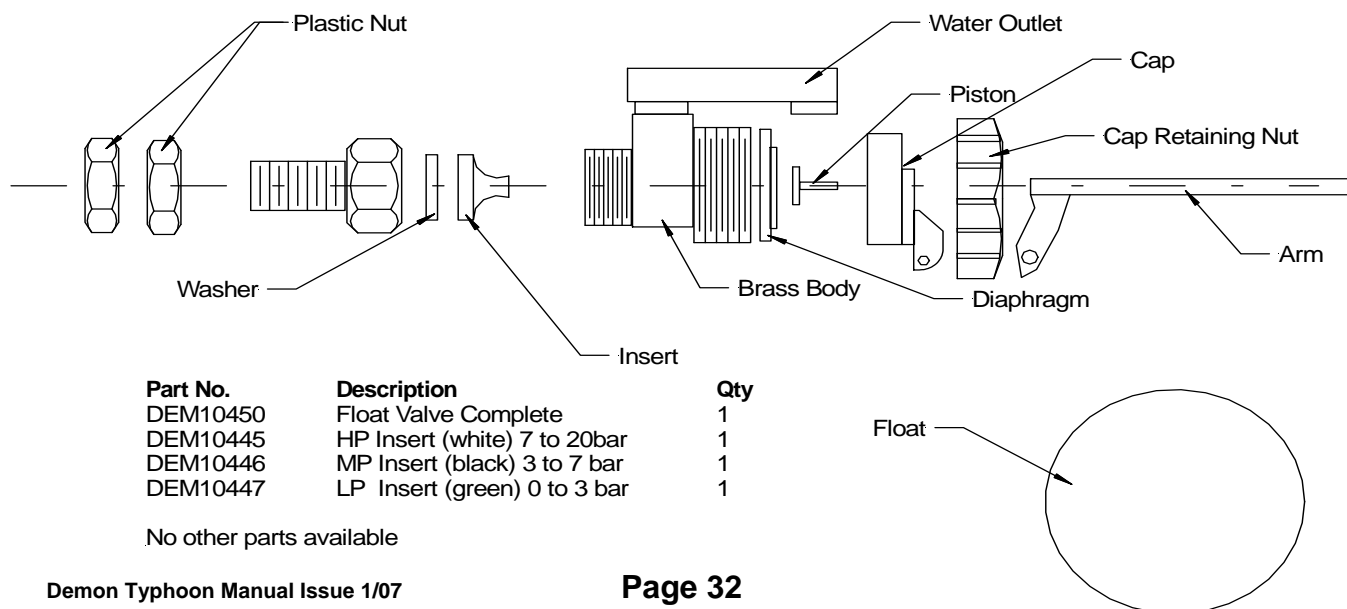


Fuel System Part List			
No	Part No	Description	Qty
1	DEM10410	Fuel Tank 24 Litre	1
2	DEM10420	Fuel Tank Cap	1
3	DEM20450	Fuel Pickup Pipe	1
4	DEM20440	Elbow Adaptor	1
5	DEM20452	Nylon Hose Connector	2
6	DEM20450	Fuel Pickup Pipe	1
7	DEM20430	Bulkhead Adaptor	1
8	DEM20440	Elbow Adaptor	1
9	MTM87100	Fuel Filter	1
10	DEM20330	1/4" Male x Male Adaptor	1
11	DB0023055	Bracket	1
12	DEM20340	1/4" Barrel Nut	1

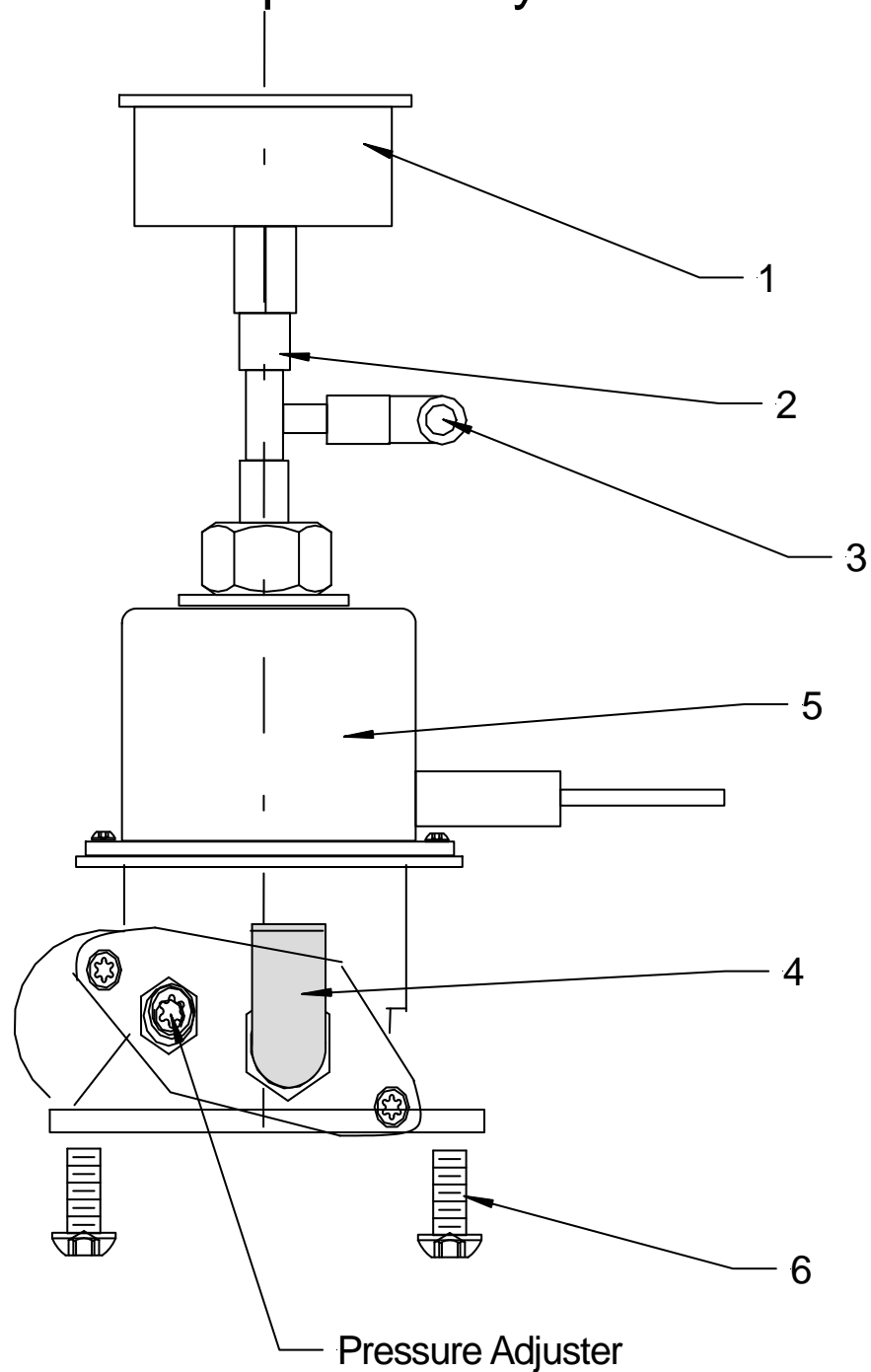


Typhoon Evolution Fuel System			
Pos	Description	Part Number	Qty
1	45 Litre Painted Fuel Tank	DEM10415	1
2	Locking Fuel Cap	DEM10423	1
3	Fuel Pickup Pipe	DEM20450	1
4	Fuel Pickup Elbow Adaptor	DEM20440	1
5	Fuel Pipe Adaptor	DEM20452	2
6	Fuel Pipe	DEM20450	1
7	Bulkhead Adaptor	DEM20430	3
8	Fuel Pickup Elbow Adaptor	DEM20440	1
9	Fuel Filter	MTM87100	1
10	1/4" Male x Male Adaptor	DEM20330	1
11	Fuel Filter Bracket	DB0023055	1
12	1/4" Barrel Nut	DEM20340	1
13	Fuel Level Gauge	DEM202551	1

Float Valve Assembly



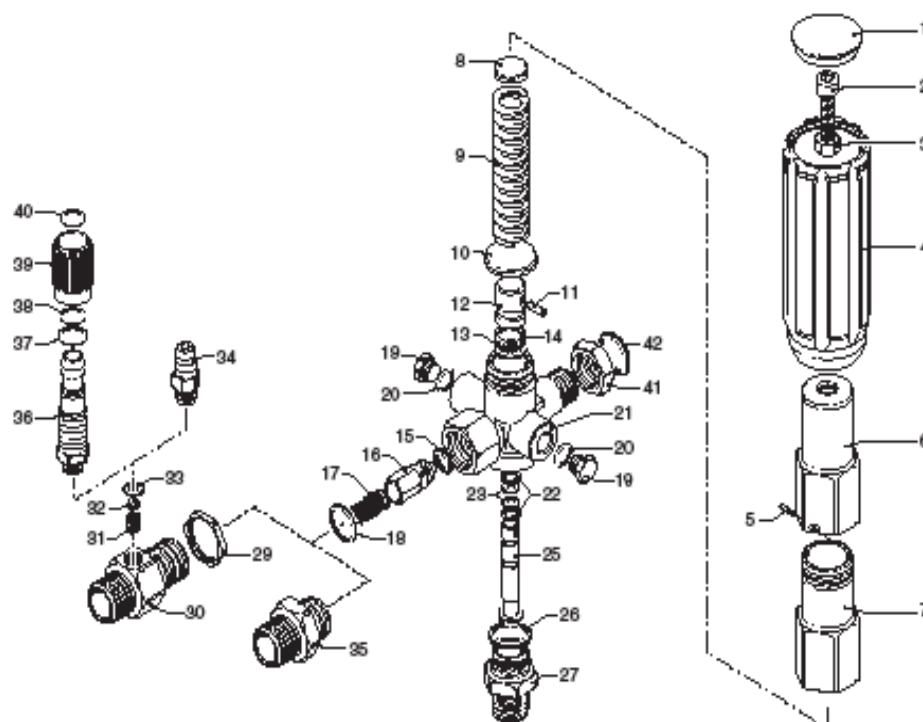
Fuel Pump Assembly



Item	Description	Part Number	Quantity
1	Fuel Pressure Gauge	DEM20630	1
2	Tee	DB000155	1
3	Adaptor	DB000135	1
4	Adaptor	DB000145	1
5	Fuel Pump Complete 110V	DB002305	1
	Fuel Pump Complete 230V	DB002300	1
6	Screw	AR1260470	2

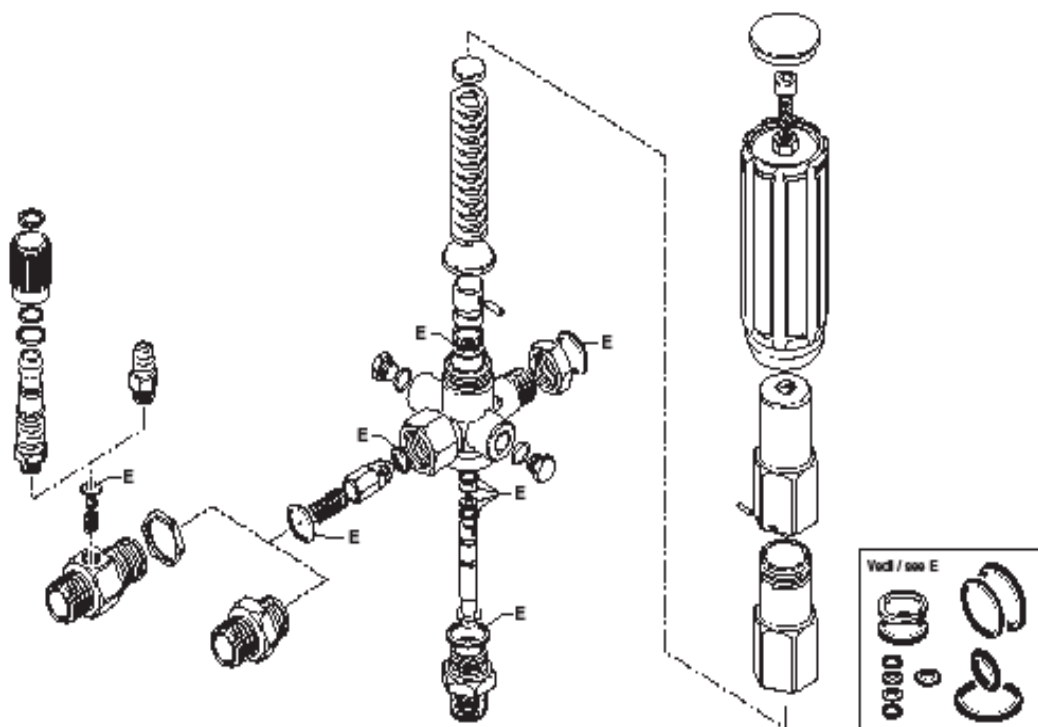
Note: Pump available in 230V or 110V only, fuel pump has no sevicable parts, when fitting new pump do not shorten leads, pressure set to 110psi (7.5 bar).

GYMATIC 3/A



UN002250-1A

KIT RICAMBI / PART KITS



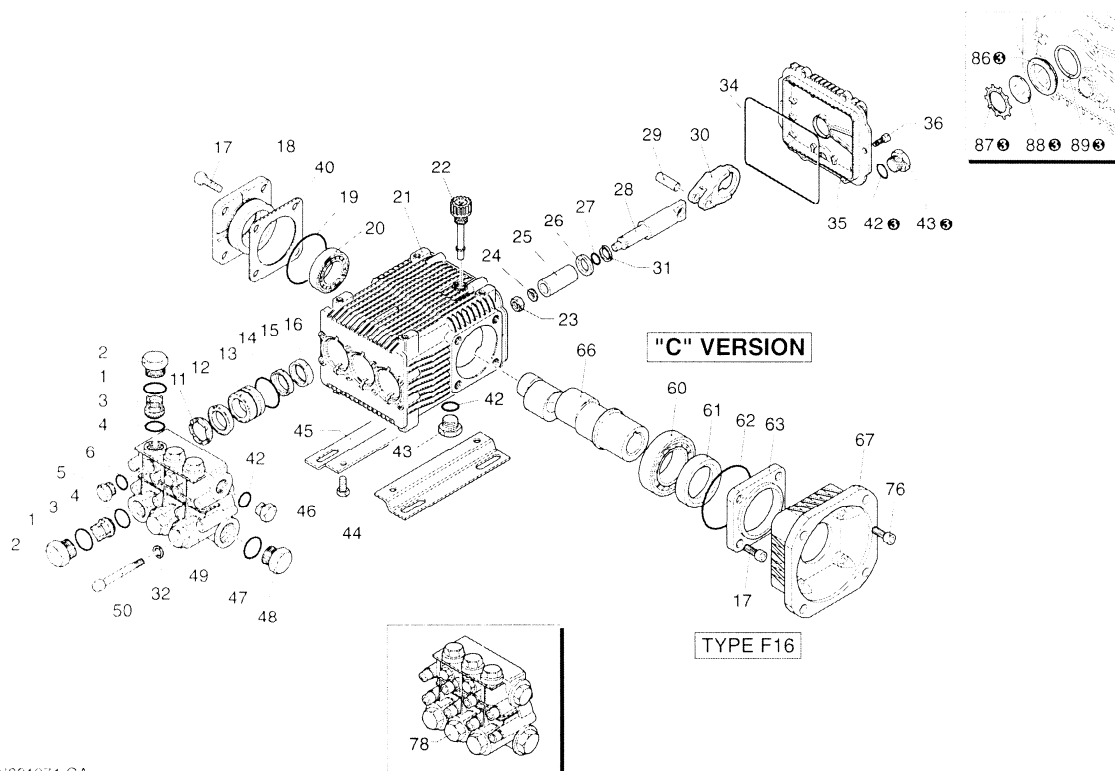
UN002260-1A

GYMATIC 3/A		
Pos	Part Number	Description
1	AR1560580	Knob plug
2	AR180030	Screw
3	AR1660210	Nut
4	AR1560400	Handle
5	AR1080070	Pin
6	AR1560420	Adjusting screw
7	AR1560410	Spring guide
8	AR1560440	Plate
9	AR1560350	Spring
10	AR1080610	Spring plate
11	AR1080660	Pin
12	AR1080540	Upper piston
16	AR1560100	Jet
17	AR1560140	Spring
19	AR880581	Plug
20	AR820510	O ring
21	AR1560020	Valve housing
25	AR1560320	Lower piston
27	AR1080831	By pass adjuster
29	AR1560510	Nut
30	AR1560500	Fitting ³ /8
30	AR1560530	Fitting ³ /8
30	AR1560540	Fitting ³ /8
31	AR1560520	Spring
32	AR1250280	Ball
34	AR1560490	Hose tail
35	AR1560110	Adaptor ³ /8
35	AR1560111	Adaptor ³ /8
36	AR1560650	Hose tail
37	AR800560	O ring
38	AR480560	O ring
39	AR1560670	Detergent reg knob
40	AR1560660	Ring
41	AR1080390	Nut
13,14,15,18,22,23,26,33,42	ARKIT2611	O Rings

RK

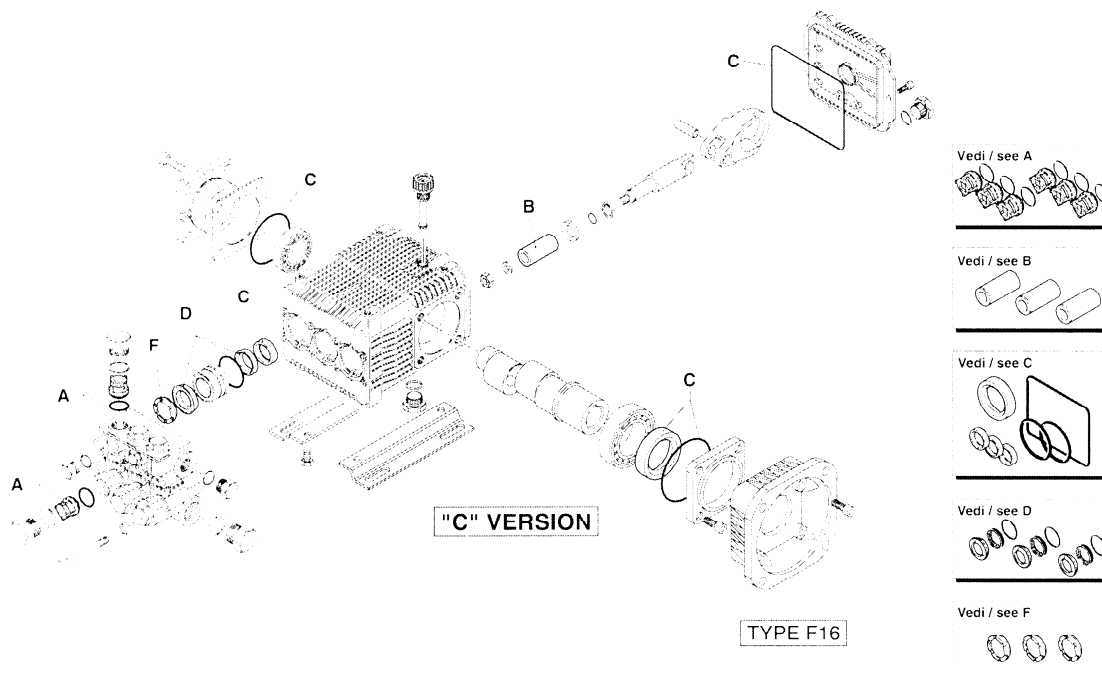
VERSION **C**

1450_{rpm}



UN001974-GA

KIT RICAMBI / PART KITS



UN001975-GA

RK MODEL: 15.20H							
Pos	Part No	Description	Qty	Pos	Part No	Description	Qty
1	AR960160	O Ring	6	36	AR1343510	Screw	6
2	AR960090	Plug	6	40	AR1380120	0.10mm shim	1÷3
2	AR1380740	Plug	6	40	AR1380130	0.20mm shim	1÷3
3	AR1389051	Complete Valve	6	40	AR1380530	0.25mm shim	1÷3
4	AR880830	O Ring	6	40	AR1382810	0.05mm shim	1÷3
5	AR880581	Plug	2	42	AR740290	O ring	3
6	AR820510	O Ring	2	43	AR1980740	$\frac{3}{8}$ G plug	2
11	AR960110	Support Ring	3	44	AR1260470	Screw	4
12	AR880320	Gasket	3	45	AR1380141	Base	2
13	AR1380090	Piston Guide	3	46	AR1980740	$\frac{3}{8}$ G Plug	1
14	AR961240	O Ring	3	46	AR1981180	$\frac{3}{8}$ G Plug	1
15	AR880330	Gasket	3	47	AR180101	O Ring	1
16	AR138130	Seal	3	48	AR820361	Plug	1
17	AR850370	Screw	8	48	AR960870	Plug	1
18	AR1380050	Closed Bearing sup	1	49	AR1381071	Pump head	1
19	AR640030	O Ring	1	50	AR820150	Screw	8
20	AR2280240	Bearing	1	60	AR1380320	Bearing	1
21	AR1382770	Pump Housing	1	61	AR621170	Seal	1
22	AR880130	Oil Cap	1	62	AR1380220	O Ring	1
23	AR962010	Nut	3	63	AR1380210	Shaft cover	1
24	AR962000	Washer	3	66	AR2280180	Hollow Shaft 28mm	1
24	AR1380940	Ceramic Piston	3	66	AR2280170	Hollow Shaft 028mm	1
26	AR1380950	Spacer	3	66	AR2280160	Hollow Shaft 028mm	1
27	AR600180	O ring	3	66	AR2280150	Hollow Shaft 028mm	1
28	AR1380920	Guiding Piston	3	67	AR1380370	El Motor flange	1
29	AR1380060	Piston Pin	3	76	AR620610	Screw	4
30	AR1383050	Aluminium con-rod	3	86	AR1260250	Oil Indicator	1
31	AR1080401	Ring	3	87	AR1260430	Snap Ring	1
32	AR1381850	Washer	8	88	AR1780690	Disc	1
34	AR1780510	O Ring	1	89	AR1140450	O Ring	1
35	AR1789010	Complete cover	1				

Valve Kit		Piston Kit		Oil Seal Kit	
ARKIT1828		ARKIT2757		ARKIT1856	
Pos	Qty	Pos	Qty	Pos	Qty
3	6	25	3	16	3
4	6			19	1
				34	1
				61	1
				62	1

Water Seal		Support Ring	
ARKIT1857		ARKIT1829	
Pos	Qty	Pos	Qty
12	3	11	3
14	3		
15	3		